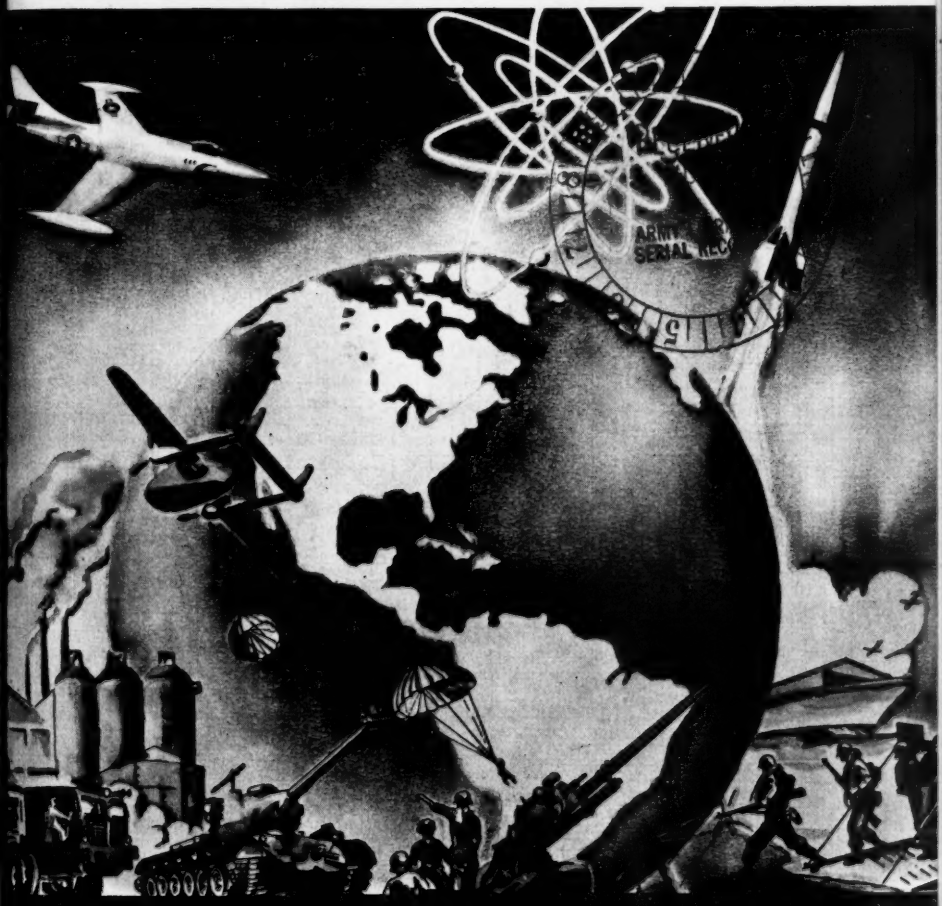
MILITARY REVIEW



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FORT LEAVENWORTH, KANSAS

JUNE 1956 VOLUME XXXVI NUMBER 3

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The printing of this publication has been approved by the Director of the Bureau of the Budget 2 July 1953.

MILITARY REVIEW—Published monthly by the Command and General Staff College at Fort Leavenworth, Kansas, in the English, Spanish, and Portuguese languages. Entered as second-class matter August 31, 1934, at the Post Office at Fort Leavenworth, Kansas, under the Act of March 3, 1879. Subscription rates: $3.50 (US currency) a year in the United States, United States military post offices, and those countries which are members of the Pan-American Postal Union (including Spain): $4.50 a year in all other countries.

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WESTERN DEFENSE PLANNING

Captain B. H. Liddell Hart, *British Army, Retired*

The views expressed in this article are the author's and are not necessarily those of the Department of the Army or the Command and General Staff College.—The Editor.

ADJUSTMENT to the new realities of the atomic age is depressingly slow among the powers that be—both in high military quarters and in the centers of government. Yet, one can sympathize with the planners in their effort to adapt military doctrine to the superrevolutionary effects of atomic energy. It is very difficult for reason and imagination to bridge the gulf between warfare in the past and warfare where atomic weapons—bombs, missiles, and shells—can be used in hundreds or thousands, and where hydrogen bombs, each equivalent to millions of tons of high explosive, are also available. What that means may be better realized if we remember that the original atom bomb used at Hiroshima, with shattering effect, was merely equivalent to 20,000 tons of high explosive.

On a realistic reckoning of the effects of present weapons, it is evident that present defense planning is far from being adequately adjusted to new conditions. While there is much talk of preparedness for nuclear warfare, the actual changes which have been made in military organization are relatively slight compared with the immensity of the problems arising from development of nuclear weapons.

The defense measures of the NATO countries have a palpable air of unreality, and the forces they have been building up are still very markedly under the influence of "war as it was"—in 1945 and earlier. In the continental countries this persisting outlook may be partly explained by the fact that their leaders are less closely in touch with nuclear potentialities than those of the United States, not having taken a hand in the development of nuclear power. They are also habituated to thinking of warfare mainly in terms of land operations with large conscript armies, an ingrained tendency which led them into disastrous trouble even in World War II by causing them to overlook the extent to which the airpower of that date could upset their military ground plans. In France there is more sign than elsewhere of an effort to think out the military problem afresh, but the process and its application have been hindered by ceaseless colonial distractions—for years in Indochina and now in North Africa. Moreover, the influence of new French thinking tends to be diminished by the loss of prestige which France has suffered since the disasters of 1940.

In Germany there is a fund of military experience greater than anywhere else, and eventual defeat in World War II should not only produce more readiness to learn from its lessons but also create an atmosphere favorable to fresh think-

The H-bomb is a weak deterrent to small aggression. Its primary drawback is that if it does not succeed as a deterrent, and if it is put into action, it automatically entails suicide for Western civilization

ing and new techniques. On the other hand, however, the chiefs of the new Ministry of Defense (Amt Blank) are handicapped by a 10-year blank in experience of dealing with military problems. They naturally tend to look at these problems through 1945 eyeglasses, while the very mastery they acquired in conducting "operations" makes it more difficult for them to visualize a kind of warfare in which there will be no scope for such large-scale maneuver. Moreover they have been working out plans for the new German forces on the lines laid down for them several years ago by NATO, and they fear to consider changes that would upset their carefully planned structure.

Visiting the army and air force executive headquarters of the NATO forces in Germany and elsewhere, one finds more realism. But as they have to carry out NATO plans, they are bound to put compliance with the existent plans ahead of adjustment to new conditions. Moreover, they have to train the forces under their control, which has to be done through a framed pattern of *exercises*, and these have to be based on things *as they are*, rather than on *what should be*.

"Integrity of NATO"

At Supreme Headquarters Allied Powers Europe (SHAPE), the fountainhead, the primary concern has been to "maintain the integrity of NATO" under increasingly difficult circumstances. So the heads of SHAPE shrink from any adjustment which may imperil, in their view, what they have built up with so much difficulty. A keynote at SHAPE is "objectivity," and it has been applied well in avoiding national bias in dealing with Western defense problems. But that keynote is not really compatible with the present paramount concern to avoid any changes that might upset the "integrity of NATO." Such a concern is essentially *political* and entails an attitude to military problems that is not truly scientific. This political concern is quite understandable when one realizes that the 5-year struggle to build up Western defense on the NATO basis has presented varied political complications and objections from many different countries.

NATO and SHAPE plans were good military sense *when* they were framed—5 years ago. But they have been whittled down repeatedly so that they no longer provide adequate defense insurance on their original basis—to furnish an effective *alternative* to dangerous reliance on the atom bomb. By the very risk of bringing on an all-out atomic war the adoption of tactical atomic weapons undermines the original basis and guiding principle. Moreover that basis has been badly shaken by the immense development of nuclear weapons since 1950—above all the H-bomb with its overwhelming powers of destruction and suicidal consequences, if used.

Compound Pressures

At the same time the NATO defense structure is now endangered by compound pressures—financial, psychological, and political.

Financial.—The desire and need of all governments to reduce military expenditures which would be ruinous if forces of all types were maintained at planned scale, and also if they are to be equipped with new kinds of increasingly expensive weapons.

Psychological.—The growing view of the public everywhere—which is not blinkered by vested interest—that the

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Captain B. H. Liddell Hart is a prominent British military writer. He served during World War I and retired in 1927. He has been military correspondent of the London Daily Telegraph *and* The Times *and military editor of the* Encyclopedia Britannica. *He has written more than 30 books on military subjects. He is the author of "Can We Defend the Middle East?" which appeared in the December 1951 issue of the* MILITARY REVIEW.

older forms of force are out of date and irrelevant to real defense problems. This view and feeling is multiplying the financial pressure.

Political.—The new and more friendly line taken by the Soviet Union which fosters the feeling, not only among the public, that the danger is diminishing and that defense expenditure is becoming unnecessary. This, again, multiplies the pressure. In Germany an important subsidiary factor is the Germans' natural desire for reunification, and the growth of a feeling that this can only be attained by detachment from NATO and becoming neutral.

All these factors and pressures are likely to increase in the near future. If the heads of NATO and SHAPE cling to their present structure (and pattern of forces) and shrink from readjustment, there is all too much likelihood that the alignment will crumble away like a sand castle. It is foolish to pursue political expediency to the point where it does not make sense militarily.

Western defense planning has the ominous appearance of having traversed a "full circle" since the outbreak of the Korean conflict in 1950. To be more precise, it has moved round a spiral course and back to the same point but on a more perilous plane, while receding from its central object.

When the invasion of South Korea demonstrated that the United States possession of such a supreme weapon as the atom bomb was not sufficient to deter such Communist aggression, the Western Powers embarked on rearmament programs which were aimed to re-create a surer form of defense with enlarged conventional forces. The principal effort was made in continental Europe with the formation of NATO and under the military direction of SHAPE—but the planned scale of strength in number of divisions was never attained. Indeed, the program itself was both whittled and slowed down—partly because the contributing governments, particularly those on the Continent, found that the burden was greater than they were willing to bear; and also in the case of France because her forces were drained away to deal with widespread colonial troubles.

At the same time new varieties of the nuclear weapon were being developed which appeared at first sight to be an easy and hopeful means of offsetting the deficiency in conventional forces. One development was the thermonuclear weapon of such immensely destructive effect as to be capable of destroying an entire city. Another was a range of new atomic weapons small enough to be of tactical use against troops and airfields.

Fateful Decision

These developments produced a new turn in Western defense planning—back toward reliance on nuclear weapons to counterbalance the Communist bloc's much larger numbers of troops. That decision was accompanied by a fresh and very dangerous complication arising from the fact that the Soviets had already begun to develop weapons of a similar type.

The fateful decision was made plain when General Alfred M. Gruenther stated in June 1954 that: "In our thinking we visualize the use of atom bombs in the support of our ground troops. We also visualize the use of atom bombs on targets in enemy territory." The implications of General Gruenther's announcement were made more emphatic by Field Marshal Montgomery in October when he declared:

I want to make it absolutely clear that we at SHAPE are basing all our operational planning on using atomic and thermonuclear weapons in our defense. With us it is no longer: 'They may possibly be used.' It is very definitely: 'They will be used, if we are attacked.'

Yet, a few sentences later he stated that: "There is no sound civil defense or-

ganization in the national territory of any NATO nation"—and added that unless such security exists "a nation will face disaster in a world war, since the homefront will collapse." It seemed extremely illogical that the heads of SHAPE should base *all* their operational planning on a course of action that, even in their view, is bound to result in "collapse." Yet, the statesmen of the NATO countries at their meeting in Paris just before Christmas endorsed this planning policy.

Field Marshal Montgomery's declaration was made in a lecture in London entitled "A Look Through a Window at World War III," and he pictured this as a prolonged struggle in three phases, ending in victory and the enemy's surrender —as in World Wars I and II. Repeatedly, throughout his lecture, he used the traditional terms "win the battle" and "win the war," and talked of thus "bringing the war to a successful conclusion." These are out-of-date terms and concepts in the atomic age.

Significant Change

A year later, in October 1955, he delivered a subsequent lecture in London which showed a significant change of outlook when he said at the end:

I now put it to you that the words 'win' or 'lose' no longer apply to contests between nations which have nuclear power of any magnitude. . . . I have been studying nuclear war for a considerable time and I have come to the conclusion that man will have it in his power in the future to destroy himself and every living thing on this planet. . . . Our aim must be to prevent war; the prospect of winning or losing is not a profitable subject.

But NATO planning has not yet been adjusted to this revised and wiser conclusion, whereas thoughtful people in most of the countries concerned reached such a conclusion long ago. The gap has produced a growing gulf between military and public opinion and unless early and adequate steps are taken to bridge this gap the entire prospect of Western defense may founder. Defense planning creates no incentive for defensive effort if it offers no better hope than mutual suicide when put into action. The NATO nations are in danger of apathetically sinking into a "Slough of Despond." If that is to be prevented, the entire system of defense must be thought out afresh with the aim of producing a nonsuicidal form of defense.

Retaliation versus Deterrence

The power of retaliation—with the H-bomb—is the most effective deterrent to deliberate aggression on a large scale, for the aggressor, even if not destroyed, would suffer damage far exceeding anything he could gain. The capacity for "massive retaliation" with H-bombs thus renders very unlikely any "massive aggression"—such as an attempt to overrun Western Europe, or to paralyze Great Britain and the United States by surprise air attack. But this power of retaliation is far less sure as a deterrent to smaller scale aggression or as a check on the risk of an unintentional slide into an all-out war of mutual suicide.

The fundamental drawback of present defense policy, based on the H-bomb, is that it tends to become an *"all or nothing"* course. The consequences of unlimited war with nuclear weapons would be so fatal to everyone involved that the prospect causes hesitation, delay, and feebleness in reacting to any aggression which is not *obviously* and *immediately* a *vital* threat. The general effect is weakening the will to make a stand against aggression, particularly any that occurs outside the vital area of Europe, while increasing the risk that an all-out war may be precipitated through an emotional spur of the moment decision.

The Western allies' position would be firmer and their prospect better if they had an intermediate course—a policy of

"graduated deterrence" and a plan of graduated action. Such a policy would show a sane realization that the concepts of "victory" and "unlimited war" are utterly out of date and nonsensical. Instead, this intermediate course would be based on the principle of applying the *minimum* force *necessary* to repel any particular aggression; its action would be directed primarily against the forces engaged in the aggression. This new aim would be to make the aggressors *abandon their purpose*, in place of the traditional war-aim of "conquering" them and compelling their "surrender"—an older concept that has always been foolishly short-sighted in modern times and which has now become insanely suicidal in the atomic age.

The hydrogen bomb is a fatal boomerang that impels a new trend to the limitation of war and the avoidance of any action likely to drive an opponent to desperation. The chief hindrance to this newer aim is the habit of thought that lingers among a generation of leaders who grew up in the period and climate of "total war." It is more difficult for them to adjust their minds and planning to the need for limitation and the principle of "graduated action" than it would have been for the wiser statesmen of previous centuries. They admit that the unlimited use of nuclear weapons would be "suicide," but the form of their defense planning, and their speeches about it, show little realization of the fact. Continued reiteration is needed to keep them conscious of this aspect.

The prospects of limitation of war would be best if conventional weapons alone were used, and sufficed to check aggression, but the NATO authorities have come to the conclusion that with conventional weapons their present forces are not adequate to check a possible Soviet invasion launched in large-scale strength. It is even clearer that the forces available for the defense of other regions, such as the Middle and Far East, are not adequate to check any large-scale invasion there, if they are confined to the use of conventional weapons.

The next best prospect of limitation would lie in the use of gas as the unconventional weapon. It is most effective for paralyzing land invasion, and at the same time can be confined to the combat area rather than destroy entire cities and is thus unlikely to precipitate all-out warfare. On grounds of humanity, too, the chemical weapon is much to be preferred to the atomic weapon even in battlefield use, and there is profound irrationality in rejecting the former while adopting the latter. Mustard gas, the most persistent of all means of obstructing and delaying the advance of an invader, is the least lethal of all weapons.

In using nuclear weapons to counterbalance the numerical superiority of the Soviet and Chinese Communist forces, the basic problem is to draw a dividing line between their tactical and strategical use —a line that has a good chance of being maintained, instead of leading to unlimited war and universal devastation. The best chance here would naturally lie in confining nuclear weapons to the immediate battlefield, but the chances of maintaining the line would decrease in each successive stage of deeper use.

Drawbacks to the Policy

The chief drawback to a policy of graduated action is that it involves a much greater financial burden than is *necessary* if we rely on the H-bomb deterrent. The word "necessary" is emphasized because at present the West is striving to build up large conventional forces, *and* to equip them with tactical atomic weapons, *as well as* building up large strategic air forces, *and* providing these with H-bombs. In the absence of a plainly declared graduated policy, such a mixture of efforts is bound to suggest to our opponents not only muddled

thinking on our part but also an underlying lack of determination to use the H-bomb.

If the Western Powers rely on the H-bomb deterrent to prevent war, and really intend to use this weapon should the deterrent fail, the logical course would be to reduce all conventional forces to the minimum required to check minor frontier encroachments and to suppress internal subversive activities. Indeed, the intention would be clearest, as a deterrent to aggression, if we reduced other forces to a mere police cordon. That would be the surest way to convince our opponents that we are not bluffing when we talk of using the H-bomb if they attack.

Moreover, in the case of all-out nuclear war such large conventional forces would be superfluous and *useless* in every sense. They could not maintain any effective defense once their sources of supply were destroyed, and with the destruction of their homelands they would also have lost their purpose. Such forces would merely represent an immense waste of money and material resources that might have been better spent on efforts to counter the growth of communism by economic aid.

Large conventional forces only make sense as part of a defense policy and a plan of graduated action.

The big question remains whether the West can produce forces adequate both to deter and defeat invasion without recourse to nuclear weapons even in the tactical field. It is worth examining the balance of manpower compared with the Soviet bloc, with particular reference to the danger of invasion in Europe.

Such a balance sheet as indicated on the chart on page 9 may surprise many people in the West who are concerned with the defense problem. It is extraordinary that the Soviet Union and her satellites, with a smaller total population, should be able to produce approximately 260 active divisions, of which about 160 are available for use in Central Europe, while the NATO countries can produce barely 20 active divisions to cover that vital area. Since such a tremendous disparity of forces is clearly not due to deficiency of potential military manpower, it must be due to lack of adequate effort or effective organization.

Need for New Concepts

The economic difficulties of attaining the minimum ground strength required can be diminished by developing new tactics and organization. The present NATO type divisions—a relic of World War II standards—are so costly to equip that their number is restricted, so demanding in scale of supply that they would be easily paralyzed in nuclear warfare, and so cumbersome in scale of transport that they are unsuited either for nuclear or guerrilla conditions.

A Western division is nearly twice as large as the Soviet type in numbers of men, and has more than twice as many vehicles without being appreciably stronger in firepower. Yet, basically, the defending side, operating in its own territory, should not need as high a scale of supply and transport as an attacker coming from a long distance away, and should be able to make effective defensive use of "local" types of force which require relatively little transport. It would be far better if a large proportion of the ground forces of the continental countries were built on a local militia basis, organized to fight in its own locality, and maintain itself from local stores distributed in numerous small underground shelters.

Such forces, a superior form of "Home Guard," would provide a deep network of defense yet need much less transport than the present NATO type, be much less of a target, be less liable to interception, and become effective with far shorter training thus relieving the present burden of conscription. A portion of these type forces

in rearward areas might be moved up as reinforcements to the forward layers of the defense if, and as, conditions allowed. With suitable planning this can be achieved and such forces will not need the large scale of organic transport and equipment that makes the existing NATO type divisions so vulnerable, as well as so costly.

The "local" type forces should be backed by mobile forces composed of professional troops, mounted entirely in armored cross-country vehicles, streamlined in organization, and trained to operate in "controlled dispersion" like a swarm of hornets. With such quality and mobility, fewer troops would be required than in the present NATO divisions and they would be better fitted for guerrilla-like war as well as for atomic war wherein mobile action would only be practicable for relatively small forces. The idea that the present NATO forces are capable of fighting "a mobile battle" is another current illusion. It would lie with the oversea members of NATO, especially Great Britain and the United States, to provide most of the new model mobile forces. Relieved of conscription and the demand for quantity the European members could do this more effectively and less expensively than today.

NATO Bloc		Millions	*Soviet Bloc*	Millions
Forward	France	42	USSR (Europe)	170
Center	Belgium	9	Poland	25
	Holland	11	Czechoslovakia	13
	Denmark	4	East Germany	17
	West Germany	49		
		115		225
Close	United Kingdom	50	Hungary	10
	Italy	53		
	Portugal	9		
		227		
Left Wing	Norway	3		
Right Wing	Greece	8	Bulgaria	7
	Turkey	23	Romania	17
		261		259
Back	United States	161	USSR (Asia)	42
	Canada	15		
		437		301
Friendly	Finland	4		
	Sweden	7		
	Switzerland	5		
	Spain	29		
		482		

Conclusions

To rely mainly on the "Great Deterrent," the H-bomb, would be the *cheaper* defense policy *if* carried out logically. Great savings would then be possible, thus relieving the economic strain that has become an increasing handicap on the Western coun-

tries. But the "Great Deterrent" is a weak deterrent to small aggression, and a very insecure insurance against the risk of this spreading to the point of becoming a common slide into a suicidal great war. Indeed, its basic drawback is that if it fails as a deterrent, and is put into action, it automatically entails suicide for Western civilization.

To adopt the principle of "graduated action" would be the *safer* defense policy. Moreover, by making it clear that we intend only to use the H-bomb as the last resort, we should strengthen our moral position, diminish the fear that any stand against aggression will be more certainly fatal than giving way, and check the spread of neutralism. The use of this principle would allay the growing antagonism in Asia which has been fostered by the way that Western leaders, by their harping on "massive retaliation," have lent color to the idea they are the most likely "mass destroyers" of mankind.

The problem of establishing differential stages of action with nuclear weapons is difficult, requiring special study which it has not hitherto received. But even if battlefield action in frontier zones were found to be the only practicable differential short of unlimited warfare, even that limitation would be well worthwhile because of its moral and political advantages. This would give the defense the best chance of profiting by unconventional weapons without precipitating an all-out war.

The *safest* degree of graduation, however, would be to develop ground forces adequate to repel invasion without any recourse to nuclear weapons, and thereby likely to deter any attempt at invasion, even in a minor way. It is largely an organizational problem, and its solution depends on a clear grasp of the problem and the will to solve it, rather than on additional outlay of money.

At present we are "getting the worst of both worlds" by incurring the heavy expense of trying to create the forces required for both policies without having the potential advantages of either. The lack of clarity tends to combine maximum cost with maximum insecurity.

We are in the process of passing from a gunpowder Army to an atomic Army, a transition period which will take years but which requires extremely important decisions to be taken now. It is a period in which the Army is required to be ready not only for the great atomic war, which we all fear and hope to prevent, but also for possible small aggressions any place about the world. To be ready for large wars and small wars, using atomic weapons or no atomic weapons or perhaps a limited combination of atomic and conventional weapons, poses enormously complicated problems. We must, of course, be ready for large wars, but it is equally important that we be ready for the small ones. . . . Like the forest ranger, the Army must not only keep ready the men and equipment to stop a huge conflagration, but it must also have the means to put out the brush fires when they occur.

General Maxwell D. Taylor

SKYCAV Operations During Exercise *Sagebrush*

Colonel Stewart L. McKenney, *General Staff*
XVIII Airborne Corps, Fort Bragg, North Carolina

The views expressed in this article are the author's and are not necessarily those of the Department of the Army or the Command and General Staff College.—The Editor.

DURING Exercise *Sagebrush* the Army organized, equipped, trained, and tested a new organization, a provisional reconnaissance troop, colloquially called SKYCAV. What is SKYCAV, how is it organized, how does it function, and how does it fit into the current reorganizational structure of Army forces?

The history of our Army is replete with the achievements of the Cavalry and of its capability for reconnaissance, counter-reconnaissance, harassing action, and surprise action against designated objectives deep in hostile rear areas. Prior to World War II the Cavalry was characterized by a high degree of battlefield mobility, and the rapidity and ease with which its firepower could be moved from one locality to another contributed immeasurably to the winning of wars. With the development of the maneuverable tank the reconnaissance mission of the Cavalry was taken over by Armor to a considerable extent. The tactics and techniques of the Cavalry were subordinated to the principles of shock action, maneuver, and firepower with this transfer of functions. These principles proved successful, although the two disastrous events of the December 1944 German offensive in the Ardennes and the Communist China breakthrough in 1950 in Korea might not have occurred if greater emphasis had been placed on intelligence and reconnaissance measures.

With the advent of atomic weapons and their adaptation to tactical means of delivery on the battlefield by air, guided missile, and artillery capabilities it became necessary to re-evaluate our concept of organization and our application of the principles of war. Although the principles remained the same, a study of the capabilities of nuclear warfare made it evident that to live on the battlefield, units had to be organized and equipped to operate with greater mobility, flexibility, and dispersion.

The application of the concept of dispersion, employing self-contained battle groups, inherently introduced a new factor—that of sufficient reconnaissance of the enemy so that his forces could not secretly infiltrate in force through the

With atomic warfare a reality, we must possess a tool that will find the enemy, distinguish battlefield vacuums quickly, and be capable of blocking mobile enemy groups prior to commitment of main battle forces

gaps left between friendly units. At the same time, anticipating that enemy forces will also be employed in small, mobile battle groups, a means was needed to find the enemy, his flanks, strengths, weaknesses, and capabilities in order to exploit to the fullest advantage the element of surprise and to reduce the possibilities of being surprised.

Original Concepts

The requirement for increased effectiveness in the performance of reconnaissance and security roles in warfare has been highlighted by the inability of purely surface means to reconnoiter and block or delay in rough areas such as the mountains of Italy, the Vosges Mountains, the Ardennes Forest, and in Korea. While surface means of reconnaissance have served well along roads, in corridors, and over trafficable open terrain, there have been larger, rugged areas where reconnaissance and security were inadequate because there was no way to get our reconnaissance and security forces to the right points quickly.

In earlier years the man on horseback could perform these functions adequately, but in modern times the horse can no longer meet the need and it has not been until recent years that technology has begun to provide suitable means for filling this gap. While recognizing the shock power of armored formations in performing the classical cavalry role of exploitation, the inherent limitations of surface reconnaissance vehicles left much to be desired in World War II and Korea.

Surface means of reconnaissance alone are considered inadequate for the future for two reasons. The first reason is that the entire front or flanks cannot be covered adequately if rugged or nontrafficable terrain intervenes. Assuming that trafficability presents no problem, the second reason is that it is doubtful if sufficient manpower can be provided to meet the reconnaissance and security requirement if only surface methods with their limitations in movement and visibility are employed. Understanding the classical cavalry role to be reconnaissance and security, as well as exploitation, SKYCAV was conceived to expand the reconnaissance and security capabilities now possessed to a limited extent by the reconnaissance units of divisions and the armored cavalry regiments.

In order to provide a balanced unit, SKYCAV, as originally conceived, included three basic elements: a reconnaissance and surveillance element capable of reconnoitering day and night by aircraft and technical means over the entire front; a small, but heavily armed, blocking force capable of being lifted quickly to advantageous points such as mountain tops or road junctions where, with its firepower, it could delay the enemy or develop the enemy situation with the view of making the enemy disclose his intentions; and a third element to provide artillery-antitank backup capable of quickly moving to the contact area under the security provided it by the reconnaissance of the aircraft overhead and the actions of the blocking force.

With a force of this structure available to him, the reconnaissance unit commander for a division would have greatly enhanced capabilities for *finding* the enemy wherever he might be and *fixing* him

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Colonel Stewart L. McKenney graduated from the United States Military Academy in 1940. He served for 3 years in the European theater with the Office of Strategic Services, Allied Force Headquarters, and II Corps. After the war he served in the G3 Organization and Training Section, Department of the Army, Washington. He commanded a field artillery battalion in the 82d Airborne Division and subsequently served at West Point and with Headquarters European Command. He is presently assigned as G2, XVIII Airborne Corps, and participated in Exercise Sagebrush *wherein SKYCAV operations and techniques were tested.*

in order to estimate his capabilities and perhaps his intentions, and at the same time covering the movement of the main body while it moves into battle. These same capabilities would also serve admirably in flank and rear area security while the main body is locked in battle. Figure 1 schematically portrays this concept. Note the helicopters maintaining constant surveillance of the enemy while the blocking and artillery-antitank forces are being brought up to the decisive point to deploy and emplace their weapons on favorable terrain in order to delay the enemy advance.

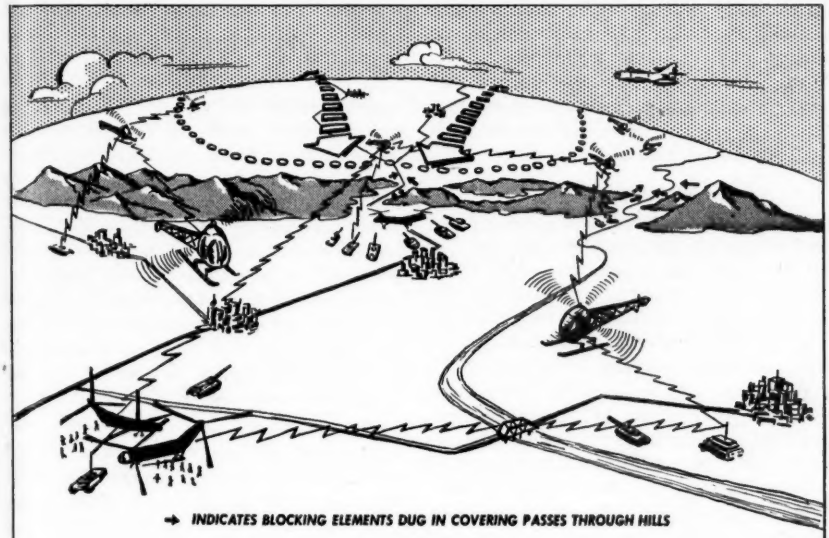

FIGURE 1.

In translating this initial concept upward to reconnaissance battalions and regiments, it seemed that by integrating the three basic elements described, in appropriate proportion to one another, the capabilities of reconnaissance forces could be greatly increased, and the classical cavalry functions could again be fully performed over the entire area of operations, rather than over only the parts of it trafficable to surface vehicles. With this in mind the provisional reconnaissance troop (SKYCAV) was organized to give to the commander a unit with highly mobile and flexible reconnaissance capabilities. This unit was to be tested during Exercise *Sagebrush*.

Objectives of the Test

The objectives of the test of SKYCAV were to:

Determine whether Army aircraft reconnaissance and transport capabilities could be combined with ground reconnaissance facilities to form an effective reconnaissance unit with a high degree of flexibility and mobility.

Determine whether the latest electronic surveillance devices could be effectively integrated into and efficiently used by such a unit.

Determine whether such a unit had the potentialities of satisfying the require-

ments of division, corps, and army commanders for improved reconnaissance and target acquisition means.

Determine whether such a unit was suitable for replacing the reconnaissance unit in the infantry and airborne divisions.

Determine whether additional experimentation and testing of such a unit might lead to supplementing reconnaissance battalions of armored divisions and armored cavalry regiments with organizations having the characteristics evolved from such experimentation and testing.

Organization

SKYCAV was organized 1 June 1955 at Fort Bragg, North Carolina, by the 82d Airborne Division using the division reconnaissance company as a nucleus for the unit. Units from four and personnel from five different Army areas contributed personnel and equipment to fulfill the organizational requirements. Its mission as defined by paragraph 2a, Training Text 17-23, *Reconnaissance Troop (Provisional)*, June 1955, was "To perform air and ground reconnaissance and battlefield surveillance for the unit to which assigned or attached. The troop may fight as infantry when required." The organizational concept involved bringing together in one unit, under one commander, heterogeneous Army reconnaissance and security capabilities, some of which had been tested and approved in the past; others were new and reflected the state of development of new types of equipment.

A review of the various elements of SKYCAV is as follows (Figure 2):

Reconnaissance Platoon.—This platoon was organized as a reinforced armored reconnaissance platoon consisting of light tanks *M41*, and a scout section of ¼-ton trucks. The platoon obtained military information and provided physical security, employing tactics and techniques proved during World War II and improved through research and test during the past decade.

Assault Platoon.—The assault platoon was organized as a reinforced infantry rifle platoon containing four rifle squads and a weapons section consisting of 81-mm mortars, 57-mm recoilless rifles, and light machineguns. The platoon obtained military information by dismounted patrolling, operating either as a platoon or in smaller patrols. It infiltrated enemy lines and was motorized on occasion from sources outside the platoon. The unit used tactics proved in World War II and Korea and, in addition, employed helicopter-borne reconnaissance patrols, following techniques which had been successfully tested at The Infantry School, Fort Benning, Georgia. In this connection the word "assault" is a misnomer and should be eliminated. It connotes something beyond the capability of the reconnaissance forces and something they are not designed to accomplish. "Support" is possibly a better designation for this element.

Reconnaissance and Surveillance Platoon.—This platoon contained a variety of sections combining capabilities which had been fully proved and others which were new and relatively untried. Visual and air photo reconnaissance were tested and found suitable both in World War II and in Korea; improved techniques and results were dependent upon improvement in aircraft and in photographic equipment. The various electronic and other special devices used for intrusion detection and battlefield surveillance had been theoretically proved feasible in the laboratory. Their use in Exercise *Sagebrush* indicated they possessed considerable military potential, although technical improvement is still required to provide adequate visual observation or discernment of enemy activity. This platoon had no capability to provide physical security except for the protection of its own personnel and equipment.

Aviation Platoon.—The aviation platoon was organized and equipped similarly to the platoons of the transportation company

(helicopter). The platoon proved capable of fulfilling its mission of transporting the assault platoon and providing logistical support to the remainder of the troop. The platoon had no capability for providing physical security except for the protection of its own personnel and equipment.

Operations During *Sagebrush*

During Exercise *Sagebrush*, SKYCAV performed a variety of missions, including air photo reconnaissance, visual air reconnaissance, tactical troop lifts, troop resupply, intrusion battle surveillance, and several classified missions. During both the attack and defense phases of *Sagebrush* all reconnaissance capabilities of SKYCAV were employed in varying combinations and degrees in order to test as many different techniques as possible under simulated battle conditions. In the collection of intelligence information the collection effort was under the command of the troop commander and the staff supervision of the G2. It is estimated that the troop furnished a large percentage of the information available to the division G2 in the attack and retrograde phases of the maneuver.

As a result of operations the following conclusions were tentatively drawn:

The concept of integrating all elements essential to the accomplishment of the mission at the operational level was sound, since coordination with major combat elements was facilitated and duplication of reconnaissance effort was minimized.

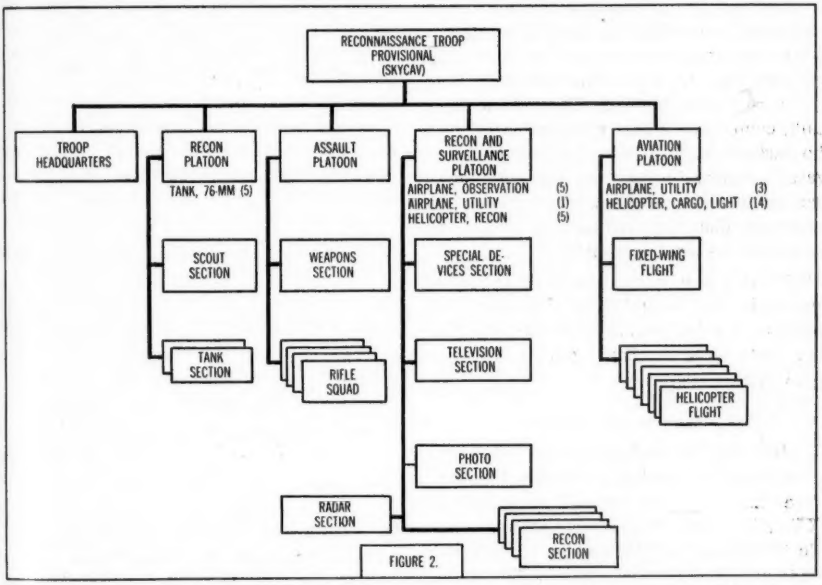

FIGURE 2.

The authorized allotment of personnel and equipment (especially communication) in the troop headquarters was inadequate to provide command control of the various elements of the unit and to permit full coordination to be effected with adjacent and higher headquarters. In this connection a considerable amount of the troop commander's time was utilized in coordinating the reconnaissance effort with the flight operations center, the fire support co-

ordination center, and the division G2. Additional personnel and equipment are needed to ensure that all elements of the troop receive proper operational direction and administrative and logistical support.

When all tactical elements of the troop were engaged in a common mission—the collection of information—the capability was established for flexible operations. However, this capability was not fully exploited when the reconnaissance platoon or the assault platoon was engaged in a mission of providing physical security. In this connection the absence of an air-transportable light tank, or conversely, the lack of an air-transport capability for a light tank, compounded this problem. Although the reconnaissance and assault platoons were designed to function together when necessary as a tank-infantry team in screening, delaying, or blocking action, the capability was not exploited.

SKYCAV was proved to be of actual or potential value to the Army; therefore, the concept of organization need only be further considered in the light of unit effectiveness.

No Agreement Reached

Before the termination of the maneuver an unfortunate tendency developed to separate the air and ground elements of SKYCAV. The division G2 assumed the role of operator of the air and ground elements attached to subordinate combat units as augmentation or used as extended ground patrols. The aforementioned inability to airlift the present light tank *M41* undoubtedly contributed to this tendency; however, this situation did lead to unrealistic conclusions being drawn as to the unit's capabilities. In this connection it appears that the development of a light, air-transportable, highly mobile armored vehicle with a shock capability, possibly along the lines of the *T-101*, 90-mm self-propelled gun, is highly desirable.

Prior to the organization of SKYCAV no agreement was reached between the Army and the Air Force regarding one basic assumption; that the Memorandum of Agreement between the United States Army and the United States Air Force as set forth in Special Regulations 95-400-5, 19 November 1952, would be rescinded or amended to permit the use of Army aviation as envisaged in the SKYCAV concept. Paragraph 2 of this agreement, while limiting the empty weight of fixed-wing organic Army aircraft to 5,000 pounds, does not limit the size, weight, or capacity of rotary-wing aircraft, used for certain designated purposes. Included in these designated purposes are "aerial observation . . . limited aerial photography" (paragraph 2a), "transportation of Army supplies, equipment, personnel, and small units *within the combat zone*" (paragraph 2e).

In addition, the regulation states that "Army organic aircraft will be used by the responsible Army commander as he considers necessary for the discharge of his military mission" (paragraph 3). Paragraph 6c states that the Air Force will furnish "airlift for the air movement of troops, supplies, and equipment in the assault and subsequent phases of airborne operations." It is the opinion of the Air Force that the SKYCAV concept envisages the use of Army aircraft within the meaning of "airborne operations" and during *Sagebrush* agreement had to be obtained between the Secretary of the Army and the Secretary of the Air Force to permit the use of Army aircraft for operations behind the "enemy lines" during the maneuver only. The airborne Army officer does not interpret "airborne operations" as the term is used in SR 95-400-5, to include the use of organic Army aircraft within the SKYCAV concept, since it is felt that the term connotes large-scale parachute or air landing operations using aircraft developed by the Air Force for that purpose. In this connection the regulation further

states, "The provisions of this memorandum are not intended to apply to convertiplane type aircraft nor will this agreement be interpreted to prohibit the continuing research, development, and testing of such aircraft for the Army" (paragraph 9). Since the convertiplane is a fixed-wing aircraft that employs more efficiently the vertical and horizontal displacement factors inherent in a helicopter and is to be used for transporting supplies, personnel, and equipment freely in the combat zone, either before or behind enemy lines, the Air Force argument does not appear to bear substance.

In the opinion of the numerous observers Exercise *Sagebrush* demonstrated that the SKYCAV concept of organization and operations provided the commander with a reconnaissance tool whose potential capability is only limited by the characteristics of equipment. It was determined beyond doubt that Army organic aircraft reconnaissance and transport capabilities could be combined with ground reconnaissance facilities to form an effective reconnaissance unit with a high potential for improved range, coverage, and speed in the collection of intelligence information. While technical improvement is still required in present electronic surveillance equipment, the potential capability and suitability of such equipment was definitely established. The effective integration into and efficient use by SKYCAV type units of such equipment is dependent only upon the required technical improvement and the availability of trained operators.

Observations during *Sagebrush* made apparent a greater need for physical security forces, in comparison with other forces, than heretofore. The need for a SKYCAV type unit does not obviate the continued requirement for the division reconnaissance unit. This continued requirement was pointed up during *Sagebrush* by the very noticeable tendency to separate the air and ground elements of SKYCAV and attach the reconnaissance platoon and/or the assault platoon to subordinate combat units. Existing reconnaissance units in the infantry, airborne, and armored divisions and armored cavalry regiments should not be supplanted by or combined with SKYCAV. The division will continue to require its ground reconnaissance capability —SKYCAV, rather, augments this capability.

Conclusions

Army aircraft reconnaissance and transport capabilities can be combined with ground reconnaissance facilities to form an effective reconnaissance unit with a high degree of flexibility and mobility.

Dependent on further technical improvement, the latest electronic surveillance equipment can be effectively integrated into and efficiently used by such a unit.

Such a unit does have the potentialities of satisfying the requirements of division, corps, and army commanders for improved means for collection of intelligence information.

Such a unit is not suitable for replacing the reconnaissance unit in the infantry and airborne divisions.

Additional experimentation and testing of such a unit will not lead to supplementing reconnaissance battalions of armored divisions and armored cavalry regiments with organizations having the characteristics evolved from such experimentation and testing.

A review of SR 95-400-5 should be accomplished, at the appropriate level, with a view toward rescission or amendment, to clarify the interpretation of portions of this regulation dealing with transport of Army supplies, equipment, personnel, and units within the combat zone by organic Army aircraft.

These conclusions indicate that SKYCAV as presently constituted and with necessary improved equipment and personnel augmentation is a potent tool if properly employed. To repeat, it should not be con-

sidered in the light of a replacement or augmentation for existing reconnaissance units. The division reconnaissance units should retain their mission and should operate up to 10 miles in advance of the frontlines. SKYCAV should be used to extend the vision of the corps commander from the next important terrain feature to a depth of up to 30 miles. The cavalry role must not be forgotten—once the initial contact is made, the enemy's flanks and center of gravity determined, and evaluated information dispatched to the higher commander, the security elements of SKYCAV must fight "dismounted" to force the enemy to deploy and to delay or block him until the main body of friendly forces can engage.

Such is the concept, the traditional and classic cavalry concept, of finding, fixing, and holding the enemy within the unit capability. The sometimes unrealistic conclusions evolved from the test during *Sagebrush* resulted from a tendency to not fully understand the capabilities of the troop, to use it not as true cavalry, but as an information gathering agency for the G2 and as augmentation attachments to subordinate combat units. The limitations imposed by currently available equipment can be overcome by technical improvement; however, the basic reason for the organization of SKYCAV must not be overlooked. With atomic warfare a reality, present and future commanders must possess a tool that will not only find the enemy and distinguish battlefield vacuums quickly, but will possess the inherent capability to block mobile enemy groups rapidly prior to the commitment of the main battle forces. True security is not only in "seeing" the enemy, but in "seeing and being" —seeing where he is and being in a ready position to block his advance.

Radical changes are emerging in the development of the implements of war. To meet the challenge of new weapons of war, our concepts of time and space have been expanded. The combat zone in an atomic war will be vastly extended in depth. Combat action will be characterized by fluidity. Units will be dispersed in space, but through greatly increased mobility will be capable of greater concentration for concerted effort in terms of time. On the future battlefield the decisive margin of strength will fall to the side possessing superior mobility to exploit the effects of weapons yielding greatly increased firepower.

Tactical areas, as in the past, must be fought for and held, and the resulting battle will be characterized by many violent clashes of relatively short duration. These tactical areas will be held, not as ends in themselves, but as a means of controlling the battle or creating favorable opportunities for the employment of nuclear weapons.

Lieutenant General James M. Gavin

DIEN BIEN PHU AND THE FUTURE OF AIRBORNE OPERATIONS

Lieutenant Colonel Norman E. Martin, *Artillery*
Faculty, Command and General Staff College

The views expressed in this article are the author's and are not necessarily those of the Department of the Army or the Command and General Staff College.—The Editor.

IN APRIL 1954 the Vietminh overwhelmed the French Union airborne defenders at Dien Bien Phu and thus rang down the curtain on the world's most recent and most disastrous airborne operation. The sequel of this event was the downfall of the Cabinet of Premier Laniel and the ultimate French surrender of northern Indochina.

Two years ago Dien Bien Phu held the center of the world stage. However, with the passage of time the glare provided by contemporary news coverage fades and general interest has inevitably waned. Detailed information on the campaign is difficult to uncover. Insofar as airborne operations are concerned, these various reasons combine to explain a tendency to slide by an evaluation of Dien Bien Phu. Furthermore, the operation ended in abysmal failure: What proponent of airborne warfare enjoys writing about the defeat of so courageous an airborne force?

Nonetheless, there are at least three reasons why a thorough examination of the Dien Bien Phu operation should be made and why information on the campaign should be widely disseminated.

First, is the recently announced increase in the number of United States airborne divisions from 2 to 3. This means the proportion now rests at 3 airborne divisions out of a total of 19 divisions for the Active Army, or over twice the proportion existent at the end of World War II. Are we headed in the proper direction?

Second, developments in the field of air transportation and air-deliverable ground weapons and equipment endow, or soon will endow, airborne forces with an unprecedented versatility. Would the versatility provided by such developments have made any difference at Dien Bien Phu?

And last, our concepts for employment of airborne forces must be continually reviewed in accordance with actual and anticipated developments in weapons, transportation, and the test of war. Is any addition, modification, or change of current airborne doctrine indicated by Dien Bien Phu?

Hostilities in Indochina between French Union forces and Vietminh Communists commenced in 1946. By the end of the

The outcome of the Dien Bien Phu operation indicates that if we are to attain the utmost from our airborne capability, we must give added emphasis and attention to the important raid type airborne operation

rainy season in November 1953, the terrain controlled by French Union forces in the area of interest had contracted to the Red River delta area surrounding the principal city of Hanoi and a narrow strip extending along the northeast coast (Figure 1). Isolated French garrisons were being precariously maintained in western Tonkin and northern Laos. Unchallenged air supremacy rested with the French.

The French Government had obstinately avoided making political concessions at the expense of popular support for the French-backed non-Communist native government. As a consequence popular support shifted to the Communists who successfully exploited the nationalistic sympathies of the populace.

Communist Offensive Preparations

The Communists were preparing for an offensive against the French forces in the Red River delta area employing all major Vietminh units with the exception of the 316th Division. This division was in the process of moving west from the Delta area with the probable mission of eliminating French Union garrisons and French-sponsored guerrillas in western Tonkin and northern Laos. In order to thwart the 316th Division and at the same time to control a principal avenue of approach into northern Laos and to destroy rice stocks and local Vietminh forces, General Henri Navarre, Commanding General of French Union Forces in Indochina, directed that plans be prepared for the airborne seizure of an objective area at Dien Bien Phu.

Lieutenant Colonel Norman E. Martin graduated from Cornell University in 1934. He served with the 457th Parachute Field Artillery Battalion of the 11th Airborne Division during World War II. In 1951 he assumed command of this battalion. He was assigned to the Command and General Staff College as a Regular Course student in 1952. Upon his graduation the following year he became an instructor and Chief of the Airborne Section of the College.

The Airborne Assault

On 20 November 1953 three parachute infantry battalions launched a parachute assault which achieved complete surprise. Caught unaware the Vietminh forces training at Dien Bien Phu were either destroyed or driven into the hills.

On D plus 1 three additional parachute battalions were delivered by air. At this point the French enjoyed unchallenged possession of the objective area containing two minimum criteria airfields. Exercise by the French of their existing capability of withdrawing the airborne force by air, or overland, was all that remained to conclude what would have then been a successful large-scale airborne raid.

The Vietminh 316th Division continued to move toward Dien Bien Phu leading the French to hope that the Communists might be enticed into attacking the French in a prepared defensive position. Accordingly, the French force was strengthened by troops from Lai Chau who were evacuated in the nick of time, just escaping the arrival of the Vietminh division moving toward Dien Bien Phu. Other troops were moved in from the Red River delta bringing the French Union force to 12 infantry battalions, 2 light artillery battalions, 1 medium howitzer battery, and other necessary supporting units. The French Air Force, which enjoyed undisputed air supremacy, was counted upon heavily to swing the balance in favor of the defenders by interdiction of Vietminh supply routes, execution of close air strikes, and provision of continuous aerial supply and air evacuation.

Major Offensive Indications

By mid-December it became evident that the Vietminh were seriously considering an all-out attack on Dien Bien Phu with their full battle corps of 3 infantry divisions and 1 artillery division. Indications pointed toward a movement of three additional Vietminh divisions to the west with a resultant postponement of plans for a major

offensive against the French forces in the Red River delta area.

At this time three courses of action were open to the French: withdraw from Dien Bien Phu before encirclement; prevent the all-out concentration of major Vietminh forces against Dien Bien Phu by diversionary operations in other sectors; or defend Dien Bien Phu taking the calculated risk that French tactical air supremacy would permit effective interdiction of Vietminh communications routes and the neutralization of enemy artillery as well as satisfying French supply and evacuation requirements by air. The last course of action was selected.

Organization for Defense

The French selected and organized positions in the flat valley floor and on the low hills rising from the valley floor surrounding the main airfield in the area (see Figure 2). Excluding the *Isabelle* position to the south, the airhead formed an ellipse about 2,500 yards in width and 3,600 yards in length. Commanding ground to the east

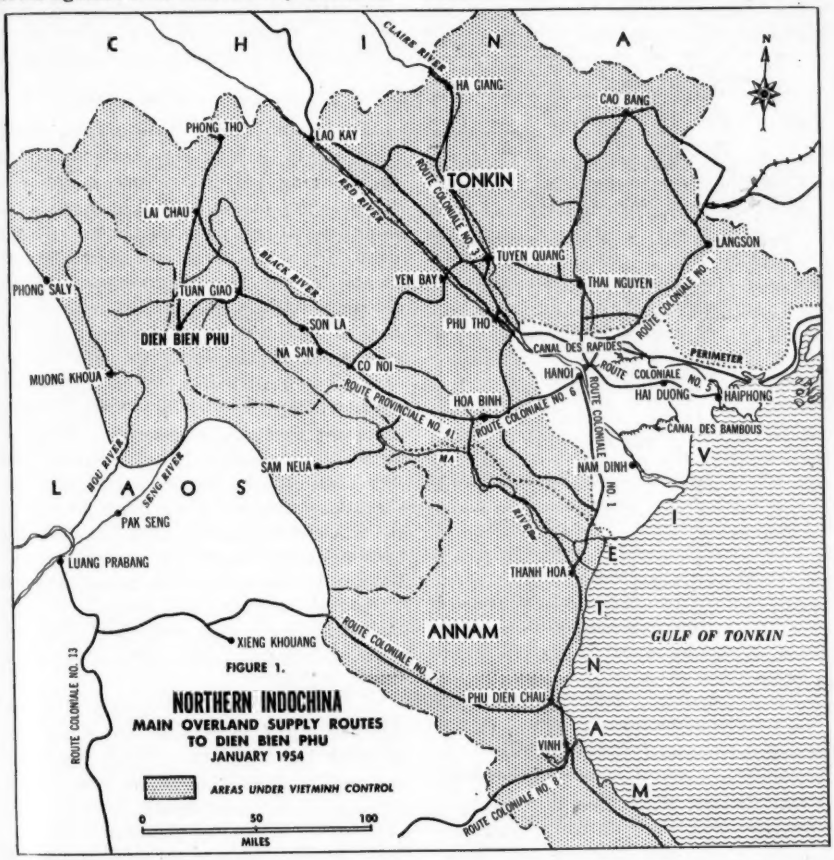

FIGURE 1.

NORTHERN INDOCHINA
MAIN OVERLAND SUPPLY ROUTES TO DIEN BIEN PHU JANUARY 1954

and north overlooking the valley was not occupied.

Vietminh Buildup

The first Vietminh forces to reach the Dien Bien Phu area occupied the commanding high ground on the east and north without opposition and by 1 January the defenders were completely isolated except

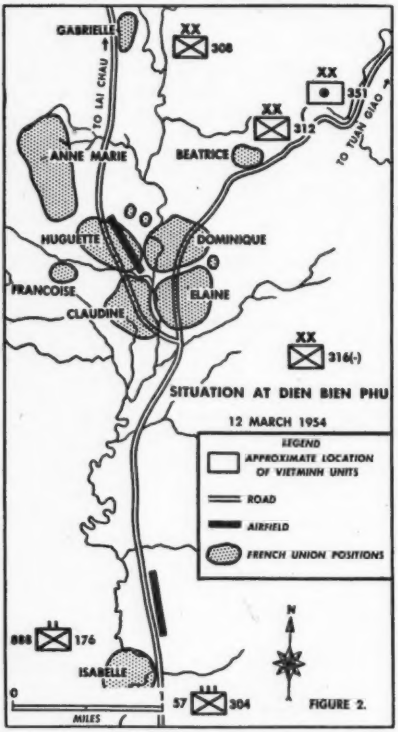

FIGURE 2.

by air. Taking their time the Vietminh continued their buildup until approximately four infantry divisions and one artillery division had been concentrated, together with necessary supporting units and supply. Chinese Communist assistance played a major part in achieving the logistical buildup. Surprise was furthered by keeping secret, until the assault, an antiaircraft and field artillery capability sufficient to cut off French air-landed resupply. Not only was the Vietminh ability to concentrate field artillery underestimated, but in contrast to previous years Vietminh gunnery techniques and fire coordination proved markedly superior. During the Vietminh buildup, however, the defenders had little inkling of the unpleasant developments in store for them.

Developments of the Battle

The Vietminh began their assault on the night of 13-14 March with an attack of the outlying positions *Beatrice* and *Gabrielle*, each of which was manned by a battalion of seasoned veterans. Strong point *Beatrice*, attacked by two regiments, fell on the first night and the defending battalion was annihilated. On the next night *Gabrielle* was overrun, also by two regiments. Concurrently with this attack, Vietminh artillery neutralized French artillery located at strong point *Isabelle*.

As the first phase ended the Vietminh were able to move their antiaircraft artillery closer to the main airfield. The observation afforded by the high ground to the east and north, which the Vietminh had been permitted to occupy without opposition, enabled the attackers to subject both airfields to artillery fire and the French Union forces became entirely dependent upon air-dropped supply. The situation is shown in Figure 3.

The second phase of the battle began on the evening of 30 March with heavy attacks by two divisions, initially from the east and later shifting to the west, which continued with diminishing intensity until 4 April. While loss of ground was limited, the Vietminh seized and held high ground in strong points *Dominique* and *Elaine* directly overlooking the main airfield, the drop zones, and the French positions on the valley floor. As Vietminh antiaircraft moved closer, supply plane losses mounted, and drops had to be made at

higher altitudes with reduced effectiveness. Eventually a substantial portion of the daily supply drop fell directly into enemy hands.

Both sides suffered heavy losses. Although the French had received a reinforcement of two battalions of paratroopers after the initial assaults, the defenders were now without fresh reserves and were

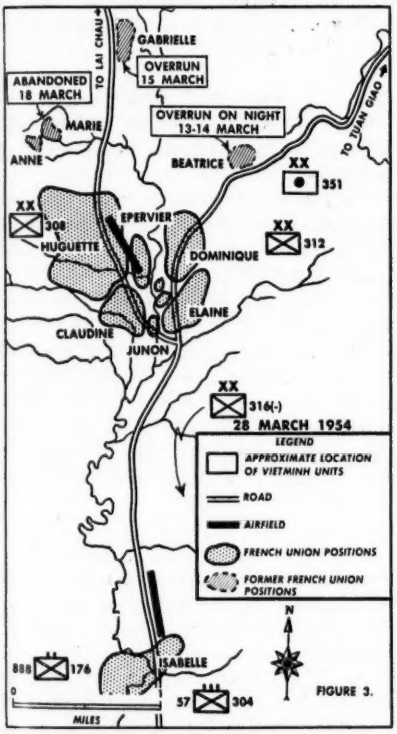

FIGURE 3.

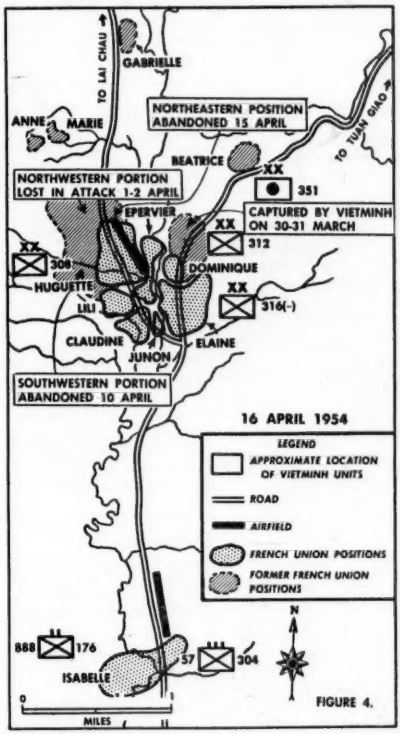

FIGURE 4.

unable to evacuate their wounded which, at this point, probably numbered about 5,000. Although sustaining losses perhaps three times as great, the Vietminh were able to both evacuate and to bring in replacements.

After the second contraction of the airhead (Figure 4) the French were unable to reinforce except in very limited numbers. Thereafter, each day French casualties from artillery and mortar fire alone exceeded replacements.

Upon termination of the second phase of the battle in early April, the Vietminh forces began a series of entrenching operations and "strangulation" tactics designed to cut off French positions which were either abandoned by the French or overrun by the Vietminh. By 1 May the airhead was less than a mile in diameter.

On the night of 1-2 May, following an intensive artillery preparation, the Vietminh launched their third series of mass attacks, and by 3 May had seized six positions in strong points *Huguette*, *Elaine*, and *Isabelle*. The defenders later recaptured two of these positions in counterat-

tacks. The airhead situation, however, was further weakened by heavy rains which threatened to collapse bunkers and to flood the poorly drained defensive positions on the valley floor.

Final Assault

The final assault on Dien Bien Phu began after dark on 6 May following an intensive artillery preparation which included use of multiple rocket launchers. The preparation neutralized all remaining French artillery and caused many rain-soaked shelters and dugouts to cave in.

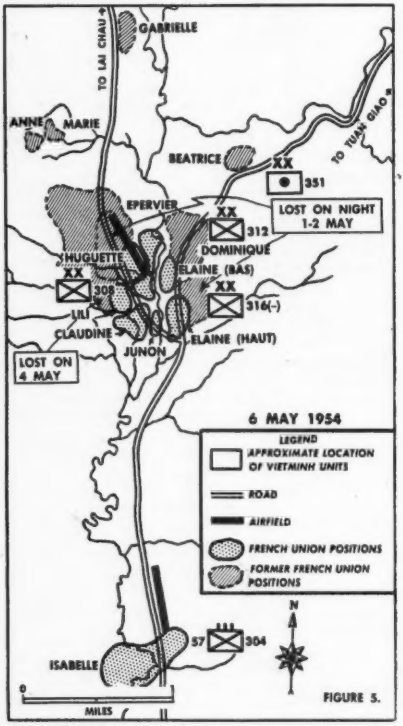

FIGURE 5.

The assault did not end with dawn, as had all previous Vietminh assaults, but pressure continued from the east with fierce hand-to-hand combat during the morning and afternoon of 7 May. Early on the morning of 7 May infiltration by Vietminh troops began from the west and soon after all French positions in the main airhead were overrun. Radio contact with the French commander, Brigadier General Christian de Castries, ceased at 1945 on 7 May, and all organized resistance in the main resistance center soon crumpled. By nightfall the strong point *Isabelle* was also overcome. After 54 days of combat quiet fell on Dien Bien Phu.

Reasons for Failure

Some of the reasons for failure are apparent in the foregoing account of the campaign.

1. Vietminh capabilities were grossly underestimated. This, in part, led to the French failure to organize and defend dominant terrain.

2. French Air Force capabilities were overestimated. The French Air Force proved incapable of fulfilling its assigned mission of neutralizing Vietminh artillery and of effectively interdicting the line of communications. By retaining the initiative the Vietminh were able to select for their attacks those times when their supply levels were adequate.

3. Limitations imposed on the theater commander by the French Government in effect forbade the aggressive military action required by circumstances and permitted by the existing French strategic capability. For example, the decisive concentration of Vietminh force in the Dien Bien Phu area could have been prevented by: attacks in the Red River delta area; attacks to sever the enemy's line of communications; or the timely dispatch of a link-up force. Too late a link-up force arrived within 48 hours marching time of Dien Bien Phu on the day the airhead was overrun, which, incidentally, was also the day international discussion of Indochina differences commenced at Geneva. Whether the forced inactivity re-

sulted from a French hope of achieving a more amicable settlement of Indochina differences cannot be said. But it can be said that the Communists once again proved the thesis that, "in war there is no substitute for victory."

Impact on Airborne Concepts

What are the lessons of the Dien Bien Phu campaign? Certainly the validity of present concepts of control of the air, of preference for the daylight assault, the use of the aircraft to overcome terrain obstacles and distances, the vital influence of dominant terrain and obstacles in the selection and organization of the airhead, and the effectiveness of surprise combined with mass were amply confirmed. Well attested were the greater risks of the independent type airborne operation stemming from the need to control air-landing facilities and from an inability to narrow down an enemy's reinforcement capability from a time-distance standpoint such as may often be successfully calculated in a 2- or 3-day early link-up type airborne operation. Forcibly driven home is the fatal weakness of an airborne force confronted with an enemy possessing, *and provided with the opportunity of exercising,* a superior buildup capability.

In reviewing the history of airborne warfare and relating the sustained combat power of any particular airborne force to the enemy's buildup potential, it becomes apparent that almost without exception all airborne operations of tactical significance have been conducted against an overwhelming enemy buildup potential. It is also evident that the successful airborne operation has, by one means or another, denied the enemy the opportunity of exercising his superior buildup potential. One such approach has been the early link-up which, for example, in the seizure of Corregidor and in the seizure of the causeway exits behind Utah Beach in Normandy, took place in a matter of hours. Interdiction has played an important and sometimes a decisive role, as in the German seizure of Crete wherein the Luftwaffe, combined with an assist from isolated German parachute units, prevented the British commander from shifting his numerically superior forces to the critical Maleme Airfield area. More often the formula for success has been a brief period until link-up combined with a strong interdiction effort. A third means of achieving the same vital ingredient of success, that is of preventing the enemy from exercising his buildup potential, is inherent in the raid type airborne operation with its planned withdrawal so timed as to escape enemy counteraction.

The raid type airborne operations of World War II were of necessity small in size and of little tactical significance. The British raid for intelligence purposes on the German radar station at Bruneval, France, in 1942 and the German raid to free the captive Mussolini in Italy in 1944 are examples. Limitations were imposed by the close disposition of units throughout western Europe from a time-distance standpoint and by a technical inability to withdraw, by air, more than a handful of troops. At Dien Bien Phu, however, for the first time in airborne warfare there existed a set of circumstances permitting the planned withdrawal by air of an airborne force of tactical significance. The complete destruction and dispersal of Vietminh forces in the immediate objective area and the relative isolation of the objective area from enemy reinforcements made withdrawal simple to execute, and on a leisurely basis, during the latter part of November or early December 1953.

Although the exact nature of future war remains unpredictable, it is widely acknowledged that such a conflict will probably be characterized by extended frontages and depths, widely separated relatively small units, and great fluidity. Such conditions strongly favor the raid type airborne operation on a scale per-

mitting important tactical results. The inclusion of successful raid type airborne operations directed against the Vietminh line of communications in the Dien Bien Phu operation would have assuredly put the shoe on the other foot. While insufficient information is at hand to evaluate the practicability of such action on the part of the French, developments do suggest the practicability of such a concept of employment insofar as our own airborne forces are concerned. Pointing in this direction, for example, are impending improvements in landing and takeoff characteristics of aircraft, and the completion of a family of lightweight air-deliverable engineer equipment specifically designed for construction of those minimum airlanding facilities essential for execution of raid type operations with fixed-wing assault transports over wide areas of the world. Adding to our prospective airborne raid capability is the increased awareness of things "airborne" as exemplified by the recent creation of a third airborne division.

Conclusion

The Dien Bien Phu operation, considered in the light of advances in the airborne field and in the nature of future warfare, indicates the feasibility of tactically important raid type airborne operations. If we are to attain the utmost from our airborne capability, added emphasis and attention to the raid type airborne operation is in order.

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HEEL OF ACHILLES

Major Reginald Hargreaves, *British Army, Retired*

He who suppresses or subdues mankind
Must look down on the hate of those below.
—Byron

The views expressed in this article are the author's and are not necessarily those of the Department of the Army or the Command and General Staff College.—The Editor.

FROM a world which vehemently protests its rejection of conflict as a means of settling international disputes, the grim specter of war refuses to be banished.

The sincerity of the Western Powers' desire to avoid armed strife is scarcely to be questioned. Committed to a policy in which military action, if embarked upon at all, would be purely retaliatory, the very fact that they have declared for restraint has inevitably had the effect of surrendering the initiative to opponents whose abiding creed is best summed up in the words of Stalin:

We live not only in a state but in a system of states; and it is inconceivable that the Soviet Republic should continue to exist indefinitely side by side with the Imperialist states. Ultimately, one or the other must conquer. Pending this development, a number of terrible clashes between the Soviet Republic and the bourgeois states must inevitably occur.

In principle this is a doctrine to which the men in the Kremlin strictly adhere, modulating the aspects and details of its execution as the day-to-day development of their governing policy may require. If —so far—they have stopped short at a full-scale shooting war against the West, it is only because they have been extremely fortunate in egging on their dupes to carry out the preliminary skirmishes for them. The conflicts in Korea, Indochina, and Malaya were, and continue to be, waged by the deluded foreign legions of Sino-Soviet imperialism—most of whose rank and file were, and remain, completely unaware of whose battles they are actually fighting. For more often than not a movement claiming to be Nationalist will be found to be under the direction of a man trained in Moscow. In any case, all Nationalist movements, however genuine their original impulses, offer endless opportunities for Communist infiltration—of which the men in the Kremlin never fail to avail themselves to the full.

So long as they are able to beguile others into waging these wars of attrition for them, the men in the Kremlin will rest content to busy themselves in keeping up the pressure in the cold war; for in this form of activity failure is more easily cloaked and success more subtly enduring. Communism is no more eager to pay

The many virile clans and peoples who have never been browbeaten or beguiled into genuine acceptance of the Communists' subhuman way of life represent the incontestable Achilles' heel of the Soviet Union

the appalling price of all-out conflict than the Western peoples; its aim has always been to weaken men so thoroughly by fear of war that they become ready and willing to accept dictatorship.

For all that, the Soviet Union would almost certainly initiate a full-scale shooting war were any of the following circumstances to arise:

If the United States, wearying of the evasion and irresolution of European politics, should embark upon an "agonizing reappraisal" of her policy, leading to the withdrawal of her Armed Forces from the European mainland and the surrounding seas. That would make a present to the Soviet Union of continental Europe, with all its vast resources in plants, raw materials, and potential slave labor; possession of which would, of course, put the Soviet leaders in a much stronger position to pursue their plan for world conquest.

If the men in the Kremlin deemed the moment propitious for an attempt to organize world revolution, following a trial of arms, more or less on the Korean pattern, in which the Western Powers had demonstrably failed to assert their superiority.

If Western Germany, without *the support of the United States and Great Britain, were to attempt the recovery of her Eastern provinces by force of arms.*

As a red herring, a last resort to distract attention from diffuse but widespread unrest within the Soviet Union, by an appeal to national unity in the face of alleged anti-Soviet aggression.

It should always be borne in mind that, fundamentally, Soviet imperialism would be far less reluctant than the Western Powers to incur the risks involved in full-scale global conflict. Soviet Russia—the heartland of the entire monstrous conspiracy to secure world hegemony—has already surrounded herself with a girdle of satellite states to buffer the first shock of arms. Her own enormous territories, moreover, have permitted the widest dispersal of her heavy industrial plants, military depots, and centers of production for *matériel* of war. Targets would be remote, far from easy access, and extremely difficult to pinpoint. Since they would exercise the initiative, the Soviet leaders would have an additional advantage in that the Western Powers would be thrown on the defensive at the outset—a situation from which the hard-pressed forces of freedom would only recover at the cost of infinite sacrifice and resolution, sustained over a nerve-racking period of time.

Even when counterattack became a possibility, it would be found that men such as Khrushchev, Bulganin, Molotov, and Malenkov would accept the astronomical losses in human life that the intensified means of destruction would involve with an equanimity which is impossible for the Western mind readily to imagine. For they are Asiatics with whom the Westerner's belief in the sanctity of human life simply does not exist. To them it is immaterial how many eggs are broken so long as they ultimately achieve their omelette. This has been made plain a hundred times but never with more brutal clarity than at Sevastopol at the moment when the German advance was temporarily sweeping all before it. When the collapse of Muscovite resistance became clearly inevitable, rather than permit the enormous stock of munitions stored in Fort Maxim Gorki II to fall into enemy hands, the local

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Major Reginald Hargreaves, British Army, Retired, served in France and at Gallipoli during World War I at which time he was severely wounded and subsequently retired. He was recalled to active duty in 1939. He has prepared numerous military topics for publications throughout the world during the past years. A frequent contributor to the MILITARY REVIEW, *he is the author of "Vital Spark" (October 1953), "Molehill to Mountain" (June 1954), "The Link" (February 1955), and "Gadgets and the Man on the Ground" (September 1955).*

commissars touched off everything, blowing ammunition, hundreds of their own wounded, and scores of prisoners of war sky-high in one ghastly holocaust.

It is not, of course, for one moment to be believed that in the long run the West would not prevail. With its superior technical and material resources, its infinitely greater industrial power, and with land, sea, and air forces whose quality would more than offset the enemy's superiority in numbers, eventual victory would be certain. But it would be won at such a cost that only the spiritual and political freedom characterizing the survivors would serve to differentiate it from defeat.

Under the circumstances it is inevitable that one should echo the query of Colonel Slocum, the United States military representative at the head-on battle of Spion Kop, who pertinently demanded, "Isn't there any way round?"

Superficially, the Soviet Union, an autarchy with the power to beat the intransigent into submission, appears invulnerable. For all that, even this armored monster "girt in steel and arm'd cap-a-pie," has an indubitable Achilles' heel—the many, virile clans and peoples who have never yet been browbeaten or beguiled into genuine acceptance of the Communist subhuman way of life.

Manifesting Their Resentment

Resistance to Bolshevik rule did not end with the defeat of the armies of Wrangel, Kolchak, and Denikin. Numerous elements among those supposed to benefit from the "triumph of the proletariat" lost no time in manifesting their resentment of any attempt to sovietize them. The Soviet Union is largely a country of agriculturists and the highly individualistic peasant mentality, more than a little grasping and amazingly self-centered, stubbornly refuses to accept any suggestion of collectivization. The small-holder, the cultivator with a few hundred acres, will only work for himself, never for an idea. So it always has been, so it always will be.

It is scarcely surprising, therefore, that trouble first arose and long continued in the rural areas. During 1928-29 there were no less than 130 uprisings against the authorities. The Ukrainians were in the forefront of many of these movements to resist the imposition of Soviet rule, as they were the staunchest supporters of that Far Eastern Republic which managed to retain some semblance of independence until 1922. After the forcible incorporation of the Far Eastern Republic into the USSR the Soviet authorities arrested most of the contemporary Ukrainian leaders, and in 1924 a monstrous farce of a trial was staged in the city of Chita which temporarily—but only temporarily—broke the spirit of Ukrainian resistance. Defiant opposition continued, however, even after the drastic measures taken by Stalin in 1932-33 to break the stubborn opposition of the kulaks—a campaign of terrorism and brutality which, it is credibly reported, cost the lives of about 10 million men, women, and children.

Yet, despite the remorseless punishment meted out, the spirit of insurrection refused to be subdued. The erstwhile American Communist, Andrew Smith, has recorded how, in his early days in the Soviet Union in 1934, news reached Moscow of another serious outbreak of trouble in the ever-turbulent Ukraine. There were endless stories of strikes and sabotage on the state farms and in the mines, and of damage done to the railroads. Local Party leaders were promptly removed and the insurrectionary movement forcefully put down, while Skrypnik, Vice President of the Council of People's Commissars, was blandly reported to have "committed suicide." By mid-1934 the movement of revolt, hitherto very largely confined to the countryside, had spread to the industrial centers and was particularly widespread

among the metal workers of Kazan. Smith, through his open expressions of disgust at the tyranny and corruption with which he was confronted on every hand, was eventually put in touch with the resistance leaders in his own electric plant—industrial workers to a man, and to a man most bitterly opposed to a regime which had falsified their dearest hopes.

In December 1934 Smith was making an inspection tour of a factory when the news came through of the assassination of Kirov, a prominent member of the all-powerful Political Bureau. He noted:

At first a curious quiet settled upon the workers. Everyone was afraid to comment although the bare facts passed with lightning speed through the factory. Gradually, however, the first shock wore off and one could hear occasional comments in the toilets, in the corridors, or, as I passed from one machine to another. Some smiled significantly to each other, when they were sure they were not being observed by the propagandists. Everybody was on edge as if they expected something even more momentous to take place. One worker said to me, 'Did you hear what happened? You will hear more later, just wait and see.' Another assured me that 'Something will happen soon.' A machine hand named Vassil even went so far as to say to me, 'It would have been much better if it had been Stalin instead of Kirov.'

Such was the mood of the workers in whose name the glorious *Oktyabr'skaya Revolyutsya* had been staged and brought to victory!

When Hitler invaded the domain of the Northern Bear in June 1941, with typical oriental guile Stalin waved the sacred banner of "Mother Russia" to unify the people in patriotic defense of the Fatherland. Despite this rousing appeal to militant love of country, there were tens of thousands of dissidents prepared to welcome the invaders as their liberators—especially in the Ukraine. The Don and Kuban Cossacks seized the opportunity to spring to arms in a separatist movement to free their territories from the Soviet yoke. With the shadow of inevitable defeat hanging over them, they were still stubbornly fighting when the war ended. On the Soviets' Western Front, at one period, volunteer Russian units, totaling 200,000 officers and men, were entrusted with the guardianship of the German lines of communication. They served under the over-all command of General Koestring, former Military Attache in Moscow, and initially proved entirely reliable.

But Hitler's imbecile failure to repress Rosenberg, with his outrageous theory of Herrenvolk and Untermenschen, proved almost as fatal as his omission to restrain the sadistic thugs Kock and Sauckel. For Rosenberg's *ad hoc* race policy relegated the Russians to "the lesser breeds without the law," to be treated like vermin and utterly destroyed; and the Gestapo went gleefully to work with torch and firing squad to ensure their extermination. General Vlassov's offer of a corps of Russian volunteers for frontline duty was contemptuously rejected; while news of the widespread atrocities perpetrated by Kock and Sauckel dammed the tide of desertions and turned approximately 1.5 million trained men, who had deserted to "fight for freedom," into bitter enemies.

There were many, however, who, while scorning all thoughts of collaboration with the Teutonic enemy, were determined to strike a blow for their own freedom. At the time of the German advance on Stalingrad there were serious anti-Soviet revolts among the Kalmuks, the Tchnetnics, the Tartars of the Nogai Steppes, and many of the Kuban Cossack clans.

The Cossacks deliberately slaughtered their political commissars, and put up a tremendous fight before they were overwhelmed by sheer weight of numbers, disarmed, and marched off to the Bykovsky

Peresov detention camp. Here they were subjected to the Suvorov method of dealing with rebels—noncommissioned officers and other ranks being lined up and 1 man in 3 taken out and shot. In this way 15,000 insurgents were executed, their bodies being buried in the sands of the Caspian Sea, at the mouth of the Volga. Victor Semenovitch Arbarkinov, with his practiced death-squads, was in charge of operations which were kept a dead secret until revealed by the fugitive Soviet staff officer, Ivan Krylov.

In November 1942 Stalin deemed it necessary to hasten off to Astrakhan, where the Kalmuks of the Great Steppes had been in arms against the regime since the previous August. These Kalmuks form part of the tribal community of the lower Volga which in all numbers about 8 million souls. The suppression of this warlike clan called for military measures on a very considerable scale. The metal workers of Kazan also rose in rebellion, but were ruthlessly dealt with; 500 of them were shot and the remainder transported to Siberia.

Unrest among the irrepressibly chauvinistic people of the Crimean Autonomous Republic led to the insubstantial charge of collaboration with the Germans being laid against them, and they were severely "disciplined" by the firing squad and by wholesale exile to Siberia. A similar fate was meted out to the insurgent Ingushes, Balkars, and Karachins.

Spontaneous Insurrection

Nor have these particular victims of Soviet Imperialist expansion been the only ones to raise the standard of revolt. In June 1953 the workers on the Stalinallee building project in East Berlin broke into spontaneous insurrection. Opposition to Soviet rule was categorically affirmed in the demonstrators' slogan, "This is a people's uprising—we demand free, secret elections!"

By evening the crowd was deliberately tearing down Soviet emblems, banners, and posters. The Red Flag over the Brandenburger Tor was ripped from its staff and rent into shreds, despite the fire leveled at the surging mob by the *Vopos* (People's Police). So threatening had the demonstrators' attitude become that the Soviet authorities dispatched the 1st Mechanized Division of the Red Army to the scene of the disturbance. *T-34* tanks charged headlong into the milling crowd in the Potzdammer Platz, and the military commander of the Soviet Sector of Berlin proclaimed a state of martial law. The assembly of more than three people was specifically banned, and a curfew decreed between the hours of 2100 and 0500. Since sticks and stones and naked fists cannot hope to prevail against armored cars and 30-ton tanks, the local uprising was eventually quelled.

In the meantime, however, unrest had spread like wildfire throughout all of the Communist-controlled East German zone. Soviet officials were seized in Bremen, and rescued only with the advent of Soviet Army troops. At Halle demonstrators raided the headquarters of the dreaded State Security Service tearing up files and burning records. At Magdeburg workmen from the Krupp Grusonwerk stormed the jail and released over a hundred political prisoners. It was in Magdeburg, indeed, that the fighting reached its most savage pitch; at least 40 demonstrators were killed, while a number of the hated *Vopos* were lynched by the infuriated crowds.

To suppress this wave of embittered insurrection the Soviets deployed a force of 275 tanks—more than Rommel ever had at his disposal at one time in the Western Desert. But put down it was, since an unarmed and unorganized mob can never hope to hold its own against well-armed and disciplined troops operating under a competent central command. The sequel was a widespread campaign of terrorism

which included 25,000 arrests and 42 death sentences among those charged with having led the movement.

Poland, like Eastern Germany, simmers with irrepressible discontent; her refusal to knuckle under to Communist domination has the powerful, if covert, support of the Church. To the North the Baltic States and Finland may be momentarily quiescent, but remain sullenly opposed to Soviet rule.

Perhaps the biggest center of latent disaffection is to be found in Siberia, which the Cossack Yermak Timofevevitch started to colonize in 1581 with every circumstance of brutality. Although the conquest was made in the name of the Czar in Moscow, the Cossacks would scorn to regard themselves as Russian. In 1917 the Cossacks of the Don, Terek, and Astrakhan, as well as those of Kuban, were in the forefront of resistance to the Soviet regime, and the temporary enforcement of submission to "the Party Line" has only strengthened their fundamental sense of independence.

He that complies against his will
Is of his own opinion still

Unfortunately, by forcibly repatriating some 30,000 Cossacks—to barbaric destruction or permanent exile—out of the Cavalry Corps which had fought *against* the Soviet Republic rather than *for* the Nazis, the Allies unwittingly destroyed one of the most formidable nuclei of opposition to Communist oppression in all the land. Despite all that a strong element of irreconcilables still survives.

Among the other dissident settlers in Siberia may be counted many Ukrainians and Byelorussians, while numerous Caucasian, Balt, Turkestani, Buriat, Yakut, Tartar, Jewish, and Polish communities share a common detestation of Muscovites, Czarist or Communist alike. To these covert enemies of the regime—numbering over 25 million—must be added the 10 million population of the slave labor camps, of whom the American citizen, John Noble, has affirmed that "only a spark is needed to set them off in revolt."[1]

In short, Siberia, with a population of malcontents that far outnumbers the true-blue members of the Communist Party constitutes an abiding threat to the crazy regime whose writ is based upon the devious policies of a score of mutually suspicious adventurers housed in Moscow's ancient Kremlin.

The President of the United States has pledged his word to work for the peaceful liberation of the satellite countries at present held in bondage. In this context the adjective can surely be regarded as no more than a concession to the language of diplomacy. Only positive action can bring about the liberation of these bond-slaves; and a potential line of action undoubtedly exists which rather than precipitate global warfare would, if successful, obviate all likelihood of its occurrence.

The people of East Germany and the satellite states, together with those of the clans and tribal communities who have always openly or covertly resisted Soviet domination, should be organized to embark on a nationwide effort to win back their own freedom. To date, their efforts at revolt have failed because they have been put into execution piecemeal. They have been sporadic and entirely lacking in integration instead of being properly organized and closely dovetailed, staunchly cooperative and mutually supporting.

Isolated revolts can easily be dealt with by local forces reinforced, if necessary, from a central reserve. It would be a very different story if instead of a purely localized conflagration, the spirit of revolt everywhere burst into flame at one and the same moment.

Of the Soviet Union's 200 million population only 7 million are members of the Communist Party, and that total includes

[1] On 9 March 1956 thousands of rioters in Tiflis, capital of Soviet Georgia, were subdued by Soviet Army troops and tanks after more than 100 persons were machinegunned.—The Editor.

the intelligentsia of technicians, bureaucrats, and minor Party bosses—all of them untrained in arms. They would constitute a relatively minor hindrance, although it is possible that even in the face of a nationwide insurrection the armed forces of the *MVD*, totaling about 2 million would stand firm in defense of the men in the Kremlin for whom they act as a type of Praetorian Guard.

But it is highly questionable if the mass of the Soviet Army would be found on the side of the oppressors. As Captain Khokhlov, the refugee intelligence expert, has summed it up: "Millions of Russian soldiers, common people with weapons in their hands, could be the prime factor in the future overthrow of the Soviet system." In such circumstances it is a moral certainty that the 60-70 well-armed divisions of satellite troops would follow suit.

Straws show the way the wind blows, so it is of especial significance that during the revolt at Magdeburg the Soviet soldiers guarding the jail refused to intervene when the workers broke into the prison to release their comrades, although this gesture of defiant restraint was subsequently penalized by the execution of 18 noncommissioned officers and men. Furthermore, during the Bander rising in the Ukraine, which coincided with Lavrenti Beria's bid for power, several Soviet Army units openly joined forces with the insurgents. Indeed, opposition to the regime has never been absent from the Soviet Army ranks. How can we otherwise account for the flight to sanctuary in the West of 150,000 officers and men over the years since 1945 in the face of almost insuperable difficulties?

The raw material obviously exists out of which a resistance movement could be formed that would sweep the present "aristocracy of blackguards" out of existence almost overnight. But to render it effective would call for a tremendous feat of organization—the one fault a counterrevolution must never commit is to go off at halfcock.

Approximately 13 associations exist to keep the flame of opposition to Soviet imperialism steadily burning. Of these the most efficient is that known as the *NTS* (*No Trudovi Soiuz*) whose press and propaganda department not only smuggle their newspapers and pamphlets into the USSR by the million, but have succeeded in establishing cells as far East as the Urals. But useful as its files and expert knowledge would be, the resources of *NTS* would call for tremendous amplification before the entire resistance movement in the USSR—actual and potential—could be integrated and prepared for simultaneous and carefully coordinated action.

The Russian himself is not a good organizer, although capable of formidable cooperative effort under a leader he has learned to trust. Furthermore, the question of ensuring subordination to centralized direction would be found to bristle with innumerable difficulties, which only intervention by powerful outside influence could hope to resolve. The Uzbeks, for instance, consider themselves the head of the resistance movement in Central Asia—embracing the so-called autonomous Soviet Socialist Republics of Uzbek, Turkoman, Tadzik, Kirgiz, and Kazaih—a claim which is strenuously contested by the other clans. Nor is this the only instance of regional disagreement that would require authoritative ironing out before harmony could be welded into constructive cooperation, under the famous motto of *The Three Musketeers*—"One for all, and all for one."

Mass-Supported Counterrevolution

The task of organizing nationwide counterrevolution, therefore, is patently one that only the Western Powers could undertake with any chance of overwhelming success. They need not be restrained from assuming the responsibility by any consideration of international ethics or

morality. The men in the Kremlin lose no opportunity to organize wholesale subversion in the countries they aim to bring under the heel of communism. If they believe the moment ripe for world revolution, they would not hestitate to give the signal for a global bloodbath. "What is sauce for the goose is sauce for the gander," and it is for the West to regain the initiative by demonstrating that what the world really is ripe for is mass-supported *counter*revolution.

The effort required to put the entire project on a sound and workable basis would, admittedly, tax their resources and resolution to the utmost. But it is not beyond them; it could be done. Given the right impetus and direction by the West, with the promise of support in the form of arms, munitions, and supplies, and Russia could be well and truly redeemed solely by the militant efforts of her own oppressed but undaunted nationals. That, indeed, is the only way in which her genuine redemption could be accomplished. You cannot hand a country the freedom you have won *for* it: if it is to be lasting and worthwhile, it must win that freedom for itself. The great task would be to ensure that the effort was properly synchronized and nationwide in scope. Otherwise the venture would provoke the very result it would have been devised to prevent—the Kremlin's departure into red herring global warfare.

Were the enterprise to succeed as one may fairly anticipate that it would, a healthy, vigorous, and responsible "Mother Russia" would be returned to the concert of nations, with consequences on the general welfare of the world that would extend even beyond the sweeping confines of Muscovy itself.

With Russia restored to sanity by the efforts of her own people, a very different condition of affairs would speedily arise where Communist China was concerned. Production by Soviet heavy industry still lags far behind schedule: China's heavy industry is on a par with that of Czarist Russia in the 1890's. In both countries the problem of food production is acute, and in the face of peasant intransigence stands little chance of immediate remedy. If Soviet support were cut off from China by a change of regime in the Kremlin, not only would the power and essential "rightness" of the Communist creed be utterly discredited, but Mao Tse-tung would be flung back on his own resources—which are in no way adequate to the country's needs. Both spiritually and materially, the Soviet Union, as a going concern, is vital to Communist China's survival.

Were Mao's China left on her own, for a time she could continue to be a considerable nuisance to her Asian neighbors. But the flaws in her own system would be bound to widen; the innate opposition of the vast peasant population to any type of collectivization would be certain to harden progressively.

If revolution is in the Russian people's blood, so the love of subversive secret societies is inherent with the Chinese. Mao has his own resistance movements to cope with, while the general unpopularity of the regime is reflected in the fact that 7 out of every 10 Chinese prisoners taken in Korea refused to return to their Communist "paradise," preferring to take their chances of a welcome in Taiwan.

The misery the Communists have created by force they seek to cure by more force, leading to even greater misery. However, there comes a time when even the most downtrodden helots can bear no more, and only need a spark to inflame them to revolt. It then becomes entirely a matter of organization, or lack of it, whether insurrection goes down before a wave of merciless suppression, or wins through to savor the freedom won by well-devised cooperation.

TO SHOOT OR NOT TO SHOOT

Lieutenant Colonel Allan W. Mitchell, *Artillery* and
Lieutenant Colonel Richard T. Knowles, *Artillery*

The views expressed in this article relative to the merit of employing the short intensive nonatomic preparation, and the purposes of, and the factors to consider in the preparation of nonatomic fires are in consonance with current instruction at the Command and General Staff College.—The Editor.

WORLD War I commanders demanded preparations that would destroy all life. They sought to permit the infantry to "advance to the attack with pipe in mouth." The length of preparations was measured in days—6, 8, or even 16 days. Despite the stupendous expenditure of ammunition and the horrendous staff effort in preparing target dossiers and kindred data, the subsequent infantry attacks achieved only limited success, for these lengthy serenades indicated to even the dullest enemy mind the location of the attack. Thus forewarned, the enemy discreetly assembled corps, and in some cases armies, and disposed these units in defensive positions beyond the range of the preparations. After advancing through the target area, the attacking force suddenly was confronted with prepared positions as formidable as the first ones. In the closing stages of the war, lengthy preparations gave way to short violent preparations and in some instances attacks were launched without any preparations. These methods enjoyed success primarily because they achieved surprise.

Between the two great wars the short preparation continued to be viewed with favor. In a text prepared in 1936 at the Command and General Staff College, entitled "Tactical Employment of Field Artillery," it was stated that preparations would seldom exceed 6 hours and might be as short as 15 minutes. In the same year Soviet Field Service Regulations advocated a 90-minute to a 2-hour preparation. Both documents recommended the short violent approach because the enemy's ability to react and the total loss of surprise militated against lengthy preparations. In general, all adversaries in World War II adhered to the principle of short violent preparations or none at all.

Current trends favor short preparations. New weapons systems, higher yield ammunition, and electronic gadgets to assist in computing data will permit an attacking force to accomplish the desired results of a preparation in a shorter period of time. Improvements in mobility, communications, and intelligence gathering devices will permit a defender to react even faster than in the past—these predictions substantiate the short, violent concept.

What is a preparation? According to the book it is that heavy volume of fire delivered prior to the initiation of the attack. It includes any or all of the following: artillery, missiles, other ground-

The decision to shoot or not to shoot a preparation is the responsibility of the force commander and is based on a consideration of the factors of targets, the means available, effect sought, and surprise

support weapons, air strikes, and naval gunfire. There is a movement underway to change this definition as far as the time element is concerned; this would have the preparation extending past H-hour and terminating sometime prior to the assault phase of the attack. This approach has considerable merit in that any heavy volume of fire initiated prior to H-hour seldom stops at that time, but generally continues until the attacking force breaches the hostile position or actually starts the final assault on the selected objective.

Be that as it may, the official definition, the one used by our allies and most of the powers in the world today, and the one used throughout this article is this: A preparation is that heavy volume of fire delivered prior to the initiation of the attack. Stated another way, it is a heavy volume of fire delivered prior to H-hour.

Neutralization versus Destruction

Before getting into the purposes of a preparation it is well to settle the old argument of whether we should seek neutralization or destruction of hostile personnel, equipment, and installations on the battlefield.

Nonatomic projectiles require a titanic effort in time, weapons, and munitions to *destroy* targets. A general idea of the effort involved is indicated in this example:

In one engagement on a narrow sector of the Soviet front in July 1944, the Soviets brought up 130 trainloads of artillery and nearly 1,000 carloads of shells for an attack. As a part of this battle, the Soviets massed 1,000 guns on a 6-kilometer front, against 272 targets which included 40 gun batteries. The Soviets claim to have disabled 203 targets including all 40 German batteries. This example is not an isolated case for frequently the Soviets massed their artillery to the tune of 250 to 350 guns per kilometer; all this because they were leaning toward destruction in a short period of time.

Another facet of the problem to consider is the time required to replace any given piece of equipment on the battlefield. In World War II it was common practice for supporting elements to deliver such items as tanks to frontline units in less than 24 hours to replace battle losses.

Considering all available means except atomic weapons, normally it is not sound to seek destruction of equipment on the battlefield from the standpoint of time and logistics. Furthermore, from a tactical point of view destruction is not necessary. An experienced attack force commander will be delighted if the fire support agencies can neutralize hostile artillery, other ground-support weapons, and selected hostile positions as well as isolating the battle area. If reasonable means are available, neutralization can be achieved quickly and economically.

The purposes of a preparation are to:

Gain ascendancy over hostile artillery. —Better that we attack his artillery before he attacks ours. Also, it is better to neutralize his artillery before he can mass effectively on our forces that may be as-

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Lieutenant Colonel Allan W. Mitchell is a graduate of Bowdoin College, Brunswick, Maine. During World War II he served with the 79th Infantry Division. His service also includes duty with the Armed Forces Special Weapons Project at Sandia Base, New Mexico. He attended the Advanced Course of the Armored School in 1949-50. Following his graduation from the Regular Course of the Command and General Staff College in 1953, he was assigned to his present position on the faculty of the College.

Lieutenant Colonel Richard T. Knowles served with the 16th Tank Destroyer Group in Europe during World War II. He commanded the 96th Field Artillery Battalion in Korea in the Korean conflict. Upon graduating from the Command and General Staff College in 1952, he was assigned to the faculty of the College where he served until 1955. He graduated from the Armed Forces Staff College in January of this year and is presently with the Office of the Deputy Chief of Staff for Personnel, Department of the Army.

sembling or moving up for the attack. Counterbattery fires are the most vital part of any contemplated preparation. In World War I gas shells were used effectively to accomplish the desired neutralization of enemy artillery.

Neutralize infantry weapons.—If all hostile weapons are located and neutralized prior to H-hour, it will certainly facilitate the accomplishment of the mission of attacking forces. Countermortar operations are a must.

Disrupt hostile command agencies thereby reducing the enemy's ability to effectively command and control his defending forces, as well as making it difficult for him to properly time and launch counterattacks.

Neutralize enemy observation.—This will make it difficult for the enemy to conduct effective fire with any supporting weapons that were not located and/or neutralized; it will also detract from his intelligence effort.

Destroy camouflage in order to expose personnel and equipment thereby assisting in effective neutralization of these targets.

Isolate the battlefield by preventing movement of reserves. Once an enemy has been found and fixed, and we are ready for the kill, all appropriate steps must be taken to prevent the arrival of reinforcements that might change the entire picture.

Demoralize the defenders in the main battle position. If ascendancy is gained over hostile artillery and enemy infantry weapons are neutralized, it will normally produce this purpose as a byproduct, the value of which is obvious.

The over-all purpose of a preparation is to facilitate the subsequent advance of the attacking force.

Factors to Consider

The decision to fire a preparation is the responsibility of the force commander. To arrive at a sound decision to shoot or not to shoot, the commander and his staff must consider, very carefully, these factors: targets, means available, effect sought, and surprise. Let us analyze each of these factors separately but note their interdependence in particular.

Targets

In conducting any operation against hostile forces targets are always present—the problem is to find them. In any future conflict an attacking force must accelerate its intelligence effort and every possible device and agency must be zealously used in target acquisition. Firing data can and must be computed as fast as targets are acquired. If only a few located targets exist, a preparation may not necessarily be in order. However, when a large number of targets are definitely located, a preparation is indicated when only the factor of targets is considered. Any condition between few known targets and many known targets would tend to decrease the value of the target factor in arriving at a decision.

An interesting technique employed by the Soviets in World War II, when target information was scanty, was their use of a preparation feint. It was a false preparation using only enough artillery to make it realistic with the infantry launching an attack with limited forces. The object was to make the Germans open up with their defensive fires and to move local reserves. A considerable number of observers were used in order to cover the entire front. As soon as sufficient targets were located and the information converted to firing data, a real preparation was fired and the attacking force advanced rapidly to prevent the Germans from relocating their forces.

Promiscuous firing on suspected targets may look very effective on the staff officer's charts and may sound emphatic, but they seldom achieve the desired results. It

is sometimes worthwhile to fire on a few carefully selected, suspected targets that are based on a detailed study of the enemy and his habits. In the long run it is better to fire at definitely located targets and do a good job than it is to "plough the desert" firing at suspected targets.

Means Available

All fire support means available to the force must be considered as well as ammunition supply problems. Moreover, an estimate must be made of the firepower needed for the three phases of an attack: the preparation, the attack and seizure of the objective, and the consolidation of that objective.

Unless the force is engaged in an unusual type of operation it should have the wherewithal to conduct a successful attack. Therefore, this factor by itself has very little significance in determining whether to shoot or not to shoot. However, it is vital in determining the duration of any contemplated preparation. This point will be covered later.

The advent of missiles provides the opportunity to the ground commander to extend his preparation far deeper into enemy territory. With his *own* organic means he can direct a more penetrating interdiction program and attack targets such as reserves, communication centers, control facilities, and logistical installations located in areas heretofore accessible only by air.

Effect Sought

Can the desired neutralization be accomplished before the enemy can change his tactical disposition? An analysis of the targets that will be fired on and the fire support means at our disposal will determine the duration of the contemplated preparation. This duration must then be compared to the time it will take the enemy to change his tactical dispositions. As has been pointed out, our doctrine stresses short violent preparations so that an enemy cannot redispose his general reserves in time to affect the action. As for local reserves, the preparation should, if properly planned so as not to reveal the "when," "where," or "how" of the attack, prohibit any significant movement of these forces. Well-planned interdiction fires, to include tactical air, give added assurance of keeping reserves out of the picture.

If the targets selected cannot be neutralized within reasonable time limits with the means available, then every effort should be made to obtain additional assistance or consideration should be given to attacking without a preparation, particularly if surprise can be achieved.

Surprise

Surprise is an essential element of any successful attack. It usually reduces logistic expenditures, lowers the casualty rate, and may offer an opportunity for obtaining decisive results. So the successful military leader, like any competitor, looks for an opportunity to gain surprise. A strong, alert enemy in a well-prepared position on good terrain, with fair to good observation, will be difficult to surprise. A situation such as this generally favors a preparation. If an aggressor is fairly weak, poorly organized, and not dug in, an unexpected attack without a preparation may give spectacular results.

The real trick is to balance the chance for surprise against the risk involved. If we attempt an operation without a preparation, how much damage can the enemy do to us when he discovers our attack? Adequate intelligence regarding the hostile firepower capability, particularly his atomic and artillery capability, and his counterpreparation technique is essential to answer this question. Troops moving forward, assembling, and out in the open preparing for an attack are especially vulnerable and will probably suf-

fer heavy casualties if caught in any hostile counterpreparation. Even if the enemy's firepower is relatively weak, he can still cause considerable damage with well-planned concentrations on troops in the open. The commander who elects to attack without a preparation can partially negate the effects of the enemy counterpreparation by having preplanned fires for all contingencies available for instant execution when the attack is discovered. Finally, on the one side the commander must consider the risk involved if an attempt is made to achieve surprise by not firing a preparation; on the other side he must consider what will be accomplished by firing a preparation.

Remember this old expression: "You can't have your cake and eat it too." The commander may be able to eat his cake and have it too; he may be able to fire a preparation and still enjoy a considerable degree of surprise. For example, there is the preparation feint. By firing false preparations in sectors where no attack is contemplated, it may be possible to divert the enemy's attention, his firepower, and even his reserves in that direction. If this is followed by a short violent preparation in the area selected for the attack, the enemy can be confused and surprised. Another technique is to have the fire support agencies conduct heavy firing at a designated time, say beginning morning nautical twilight (BMNT) for several days. Initially, the enemy will be alerted for an attack each day, but eventually he may come to expect no attack. Then, when the day arrives for the attack a preparation at BMNT followed immediately by an attack may well achieve a certain degree of surprise. Many interesting patterns can be developed by varying the time, place, duration, and volume of fire of the false preparation to include the use of atomic weapons in the foreseeable future.

One other facet of the problem rears its ugly head. Commanders must ensure that the patterns of the concentrations that are part of their preparations do not telegraph their punches. During World War II the Germans were able in many cases to locate American boundaries by gaps in the artillery concentrations fired and by the different schemes of fire employed in adjacent sectors. In some cases they were able to identify units by the pattern of artillery fire, and in one case they felt that by analyzing their information they had deduced the identity of the divisions making a corps main effort—and they were right!

Planning Sequence

Let us now take a look at the sequence of events that normally leads to a decision to attack. First of all, the unit receives a combat order directing or implying that an attack be initiated and staff estimates are then prepared and presented to the commander. The commander makes his estimate of the situation and in the course of this process he considers the same factors that we have analyzed in discussing our preparation problem. He will certainly be intimately familiar with the fire support means available, enemy dispositions (targets), enemy capabilities and own dispositions (effect sought), and any opportunities for surprise. By the time he knows the *when*, *where*, and *how* of the attack he will also know in general terms how he wants to employ his fire support. He knows that in an attack of any significant size firepower must be employed to neutralize the enemy's forces and firepower. This must be accomplished before any element of the hostile force can endanger the friendly force unnecessarily. With this in mind the commander will then decide whether the massing of a heavy volume of fire to accomplish the desired neutralization should come before, at the same time, or after the troops cross the line of departure. A quick but careful reexamination of the four factors should

then make it crystal-clear whether "to shoot or not to shoot."

Duration

The duration of a preparation may be determined before an estimate is made to solve the shoot or not to shoot problem. For instance, a commander may well start his analysis by answering this question: "If we fire a preparation, how long should it be?" Another approach is to consider the duration question along with the basic question, to shoot or not to shoot. A third approach is to determine the duration of the preparation after arriving at a decision to fire one. In all three cases the same factors—targets, means available, effect sought, and surprise must be considered.

In simplified terms the length of a preparation is determined by the number of targets and the policy of attack. Taking the counterbattery problem for illustrative purposes, let us assume that 24 hostile batteries have been located. It takes two medium or heavy artillery battalions (preferably heavy) firing for 5 minutes to neutralize one hostile artillery battery. Thus if we have 10 battalions available to neutralize 24 hostile batteries it would take 24 minutes to complete the job.

2 battalions x 24 batteries=48 missions

48 missions x 5 minutes each=240 minutes

240 minutes÷10 battalions=*24 minutes*

Allowances must be made, of course, for other type missions and other means of delivery. If atomic weapons are used, the duration of the preparation will be reduced. An estimated duration may be obtained by determining the time it would take to neutralize those targets not affected by atomics.

Once a decision has been made to fire a preparation, the force commander should announce how the fire support means available will be employed prior to the preparation. Should lucrative targets be attacked? If so, by what means? Should these targets be kept under surveillance only, until the preparation period? Targets such as mortars and artillery, if fired on before the preparation starts, frequently move to new locations and then become difficult to find; during the attack they again reappear and cause no end of trouble. However, if kept under surveillance until the preparation commenced, they could be effectively neutralized.

At Corps Level

As an illustration, the corps commander must decide and announce whether an active or silent counterbattery program will be adopted prior to the preparation. Generally in World War II a silent counterbattery program was adopted except hostile artillery was taken under attack immediately if it started to fire and if that fire was doing any damage; this was particularly true if the corps command post was taken under fire. All other fire support activities were maintained on as near a normal status as possible.

In an atomic age this consideration of what will be done prior to the preparation is of paramount importance because *the side that shoots first may at the same time be shooting last.* If the enemy possesses a potent atomic capability and indications reveal that he may use it prior to our attack, a silent counterbattery policy by our forces may be suicidal. Should the enemy launch a devastating atomic counterpreparation *before* we fire our preparation, we may *never* have a chance to shoot.

Phases

Preparations do not have to be conducted from H-x minutes to H-hour in all cases. It may be desirable to have a 5-minute, or more, period of silence in order to provide observation battalions and radar units an opportunity to locate hos-

tile batteries that are new or that were not neutralized. This was frequently the practice in Europe in World War II.

Long preparations are generally broken down into phases to facilitate planning fires. A typical 3-phase preparation may be handled as follows:

Phase One.—This is generally a counter-battery phase in which friendly fire support means, primarily artillery, are employed to neutralize hostile artillery.

Phase Two.—Neutralization of hostile artillery is maintained and long-range interdiction starts. Command posts, communication centers, observation posts, reserve units, and defensive positions are taken under fire.

Phase Three.—Neutralization of hostile artillery is maintained; however, the bulk of all fires is now placed on forward enemy positions with priority on known defensive elements and targets that seriously threaten the success of the attack.

There is no time gap between phases; there is merely a gradual shifting of fires to take care of the various types of targets in a logical sequence. In very short preparations all targets are taken under fire simultaneously.

Operation orders must reflect the commander's desires regarding preparations. Current technique requires that a positive statement on preparations be included in paragraph 3a, entitled "Concept of Operation," of an Operation Order for an attack. This statement will cover one of the following four conditions:

The attack will be preceded by a preparation (duration may be included); preparations are prohibited; preparations are optional (passing the decision to subordinate commands may be desirable in fluid type situations); preparations are restricted in time, in space, or by unit.

This will take care of the unit as a whole. In addition, if a preparation is to be fired, the duration will be included in the artillery subparagraph.

Atomics

Atomics have been considered in general terms throughout this article. However, since the magnitude of atomic implications on future warfare is so terrific, the following thoughts have been isolated for emphasis and special consideration.

Targets.—Because of the comparative cost and criticality of atomics, we must select targets worthy of the expenditures. Small targets should be attacked with other means.

Means available.—The number of atomic weapons available and their respective yields should be considered in the same light as nonatomic projectiles.

Effect sought.—Due to the magnitude of an atomic explosion, the effect sought can be achieved so rapidly that the enemy will have *no time* to change his tactical dispositions. Furthermore, the goal for the preparation can be destruction rather than neutralization as is in the case of nonatomic projectiles.

Surprise.—This factor is very significant since surprise is most desirable in order to maximize the effects of atomics. If we achieve surprise and thus catch the enemy unawares with an atomic preparation, most individuals within the lethal effects radii will become casualities. With other type projectiles the first exploding shell or bomb alerts the enemy and gives many an opportunity to seek protection from the remainder of the preparation.

In general, we can assume that the factors to be considered and the planning sequence are essentially the same when considering a preparation employing atomic warheads. The duration of a preparation will probably be much shorter. The three phases of the preparation probably can be reduced to two. In the first phase we can accomplish the destruction or neutralization of enemy artillery, command posts, communication centers, observation posts, reserve units, and defensive positions simultaneously. In the second

phase nonatomic fires (delivered by artillery, missiles, air, or mortars) will neutralize the crevices or gaps that are not effectively covered by atomics and will augment the damage caused by the atomic attack. This phase will be used to further confuse the enemy, delay his reorganization, interdict routes of rescue or reserve units, and disrupt his command or control facilities. For example, high explosive shells or napalm may cause many secondary fires—igniting inflammable materials scattered by the atomic attack.

A final interesting point to consider is that it is possible to provide flank security for a considerable period of time with a preparation using atomic projectiles. In situations where the flanks contain considerable wooded area, atomics dropped there during the preparation can create such blowdown as to virtually secure the flank for the duration of the attack.

In order to be sure we have a "feeling" of the problem the chart above is presented. It can be used *in conjunction* with an analysis of the four factors to reach a decision regarding a preparation.

Situations can be visualized which dictate that a preparation must be fired, but it is difficult to think of any situation in which a preparation *must not* be fired. A good motto for an aggressive commander might well be "*In case of doubt—shoot.*"

Summary

Unless atomic weapons are employed, neutralization is the effect sought and not destruction.

The over-all purpose of a preparation is to facilitate the subsequent advance of the attacking force.

The decision to shoot or not to shoot a preparation is the responsibility of the force commander and is based on a consideration of *targets, means available, effect sought,* and *surprise.*

In general, it is better to fire at definitely located targets and to do a good job than it is to "plough the desert" firing at suspected targets.

In an atomic war *the side that shoots first may at the same time be shooting last.*

A positive statement regarding preparations must be included in every attack order.

In case of doubt—Shoot.

ENEMY CONSIDERATIONS THAT:

Favor a Preparation	*May Favor No Preparation*
1. Strong force	Weak force
2. Alert force	Nonalert force
3. Good defensive position	Poor position
4. Good observation	Poor observation
5. Behind good obstacles, river, etc.	Behind no obstacle
6. Strong in firepower.	Weak in firepower
7. No open flank	Open flank
8. Must be attacked at night employing illumination	When a night attack without illumination is feasible
9. Chance for surprise is good but risk to own force is great if detected	Chance for surprise is good and risk is negligible

WHAT IS THE ARMY'S JOB?

James E. Cross

The views expressed in this article are the author's and are not necessarily those of the Department of the Army or the Command and General Staff College.—The Editor.

TODAY, the United States is maintaining more powerful ground forces than ever before in her peacetime history. Paradoxically, the country is less certain than ever before of why it is maintaining these forces. They are no longer our primary deterrent against large-scale enemy attack, and they no longer constitute our primary weapon for waging large-scale war. The massive long-range striking force of the Strategic Air Command (SAC) has come to fill these roles, while the ground forces and, to a large extent, the naval forces are now cast in supporting roles. To the average citizen these supporting roles, particularly that of the Army, are vague and poorly defined. He is confused as to the types of wars his country is prepared to fight. Worse, he senses that his leaders share his confusion.

This need to define the military's mission is something new. Through our national history we have often been foolish in our policies regarding the Army, but we at least knew why we had one.

Until the end of the last century the Army's primary job was to protect and advance the growth of the country westward across the continent. With the exception of the Civil War the Nation's conflicts were relatively small ones, and there seemed little likelihood that larger ones lay in the future.

When General Sherman moved Army Headquarters to St. Louis after the Civil War he was doubtless influenced by his deep dislike of Washington life, but he was also recognizing the fact that the Army's main task lay in the West. The closing of the frontiers coincided roughly with the country's almost reluctant assumption of responsibility in the Philippines and for a time in Cuba, and the military found itself with new and demanding tasks. These, together with the building of the Canal, kept the small Army of the day busy until the outbreak of World War I in Europe made it clear that something infinitely larger was probably at hand. After 1918 the Military Establishment was cut back sharply, but the long-term mission of the Army was not in question. While responsibilities in the Philippines continued, the primary job was to maintain a force that could carry the initial brunt of any new war and at the same time raise and train the mass citizen armies that a second great conflict would require. Despite some 20 years of public apathy, the job was done when the time came, and done well.

The United States Army finished World War II as one of the most powerful fighting machines of all history. Then followed the breakneck demobilization, and

Until we have an army organized to fight to political rather than to military conclusions and a people reconciled to supporting it, we will be vulnerable to the present pattern of creeping Communist aggression

the Army undertook its new mission of occupying and rehabilitating our former enemies. Furthermore, it was already evident that this mission was a temporary one, and that for the long run the place of the Army in the American way of life had changed.

Technological Advances

The staggering technological advances seemed to have altered the facts of military life overnight, and one natural result was the emergence of the Air Force as the Nation's first line of defense and weapon of offense. America accepted this development remarkably easily, for a weapon system made up of the nuclear bomb and the long-range aircraft to deliver it suited our traditional way of thinking on how wars should be waged. We have avoided wars, if possible, but once engaged we have fought them through on military rather than political priorities, driving the matter to a military conclusion that left the enemy government either prostrate or nonexistent. Grant's Virginia campaigns leading to unconditional surrender set us a pattern of concentrated effort and total victory. The scenes on the deck of the *Missouri* and in the schoolhouse at Reims fitted the American concept of how a war should end. An unpleasant military task was accomplished and the matter closed.

Thus to many Americans SAC of the Air Force seemed a panacea. Here was a massive and potentially decisive military instrument, well calculated to achieve absolute success and to spare us the long drawnout agony of mass ground warfare. We saw and understood the vital importance of maintaining it at top efficiency as a deterrent to all-out attack against us, but more than that its compatability with our military concepts led us to overlook some of the limitations both of the instrument itself and of the philosophy of warfare that it represented.

Therefore, the Korean conflict caught us emotionally unprepared. We fought with an uneasiness and a sense of frustration new to us in our military undertakings. Our methods, our priorities, and our objectives were all affected by factors we could not control. We found that we could not use the new strategic air weapon on which we were spending vast sums, but nevertheless we had to retain it as a deterrent to other possible aggression. The urgent requirements in Korea were first to hold and then to retake ground, and we found ourselves called on to fight just the type of a tough ground force action that much of the Nation had come to feel was somehow obsolete.

For virtually the first time since 1812 we found that we could not force the conflict through to a military decision. Our agonized conclusion was that to do so in Korea would involve intolerable risk of raising the scale of the conflict to a level where military victory would be meaningless. In short, here was a situation that defied settlement in our traditional way. It could not solve or settle the conflicts of interest that had produced it, and in one form or another the issues were going to live on. We and our allies would have to find means other than all-out military force to cope with them.

In large part it was the dawning national realization that we were inescapably involved in a new, a messy, and to us an entirely novel form of continuing

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James E. Cross is a graduate of Yale University and the University of Virginia Law School. During World War II he served as a civilian with the Office of Strategic Services in Europe where he qualified as a parachutist and received the Medal of Freedom and the Danish King Christian X Medal. He was assigned as a Research Assistant on the staff of the Institute for Advanced Study at Princeton University during 1951-52. He was on the United States delegation to the Manila Conference in 1954. Since 1952 he has been a Research Associate and Project Director at the Massachusetts Institute of Technology Center for International Studies.

conflict that produced the country's traumatic reaction to the Korean situation and to the threat of international communism as a whole. Five years after our thundering victories we seemed stymied by an evil and mysterious enemy in a small conflict in a small country. Many felt the answer must lie in governmental inefficiency or stupidity or worse, and we went off on a national emotional binge that will puzzle future historians both by its bitterness and its inconsistency. Vocally we became increasingly anti-Communist at the same time that the conflict we were fighting against Communists became increasingly unpopular. The administration that led the Nation in open conflict against Communists was widely accused of softness toward communism, and the succeeding administration was swept into office on a platform that combined firmness to communism and even liberation with plans for bringing this shooting conflict to a prompt halt.

Now, some 2 years after the Korean Armistice, we are in better shape to examine objectively the problems put to us by limited aggression and to consider the nature of the military machine we need to protect our national security against this threat.

The deep and continuing conflict of interest between the rulers of the Communist world and the peoples of the free world is perhaps more evident than ever. At the core of the Communist creed is the conviction that communism constitutes the wave of the future and will ultimately come to control the earth. This faith remains unaffected by shifts or zigzags in the Party Line. The actions and the words of the Communist leaders are all calculated to help this process along in every practicable way, and it is clear that force and violence are still, as Marx originally declared them to be, basic instruments of Communist policy.

Hence we have the present arms race in special weapons. These will all too clearly be the deciding factor in any future test of all-out strength. Maintaining the balance of power appears to be the most immediately evident way of avoiding such a test, for while we and the Communists are vying for the lead in these horrors, we seem tacitly to have agreed that an evenly matched full-scale thermonuclear war will finish us both.

This realization does not affect the existing conflicts of interest—it simply means that so long as parity exists any violent resolutions of these conflicts will have to occur at governed levels of violence. Mankind will have to fight with limited weapons toward limited objectives if he is going to live to fight another day.

Balance of Applicable Power

It is in trying to work out a rationale or doctrine for these lesser tests of strength that we Americans seem to grow confused and somewhat resentful. We tend to confine the term "balance of power" to the balance of total power, forgetting that in any given situation the operative factor will be the balance of applicable power—the power that the opponents can or dare to use. We cling to the hope that if we raise the effectiveness of all our forces for all-out war, we will prevent all forms of aggression. Our ground forces are being equipped gradually with tactical nuclear weapons and are being reorganized and retrained to use them efficiently on a large scale—many maneuvers are centered around hypothetical or simulated bomb bursts.

Somehow this does not seem to answer the question. It is hard to visualize large land forces locked in nuclear battle on the mainland of Eurasia except as part of the total thermonuclear war that both sides believe will destroy them. The political realities of the free world require that we maintain substantial forces abroad in the NATO area, but these forces serve primarily as tangible earnest that we will

fight to defend the region. The increasing creaks and groans in the NATO structure indicate the feeling of our allies that all-out attack by enemy ground forces is no longer very likely.

The fact is that Communist successes in recent years have been gained through limited forms of military and political attack. If the United States Army is designed and deployed to counter this form of aggression, it will meet a more pressing need than if organized as an adjunct to SAC. The fact that in Korea we reacted quickly and fought tenaciously makes is less likely that the Communist powers will try that form of attack again. But if it becomes evident that another time we may be unable or unwilling to accept such a challenge, the likelihood of our being faced with it increases sharply.

The Communists will feel safe in trying minor aggressions once they determine that the only positive riposte open to us is to unleash a third world war through massive retaliation, for it is evidently not in our interest to do so.

Our Weakness

The more subtle and gradual forms of attack through infiltration, political persuasion, insurrection, and developing guerrilla war have found us with no adequate political or military answer. In struggles of this type there are seldom suitable targets for massive air strikes. Ground forces geared and equipped for large-scale war are notoriously ineffective against guerrillas. Militarily, such forces cannot bring their might to bear, and their efforts are all too likely to injure and alienate indigenous populations and thus lose an equally important political battle. In these situations national power has meaning only in terms of its immediate application. Today, unfortunately, the sum of applicable American power is not always impressive.

Our objectives are honorable and often they are clearly and persuasively stated. Uncertainty of performance—both in quality and duration—is our weakness. This weakness rarely stems from a lack of absolute strength. More often it is there because we lack the appropriate instruments with which to act, the practical doctrine on which to act, and the political will to make our strengths available in furthering our avowed objectives.

Our shortcomings are not purely military—far from it. The most effective, and in the long run the most economical, moves we can make to aid the non-Communist elements in the regions threatened by localized aggression center on imaginative financial aid together with understanding diplomatic guidance and help.

The initial phases of most Communist campaigns of aggression have centered on essentially nonmilitary efforts to build a base of popular political support. In forming their announced programs they make imaginative use of the aspirations and grievances of the populations, and they work diligently to discredit both the ability and intentions of the existing governments. Where the quality of these governments and/or their policies leave a good deal to be desired the Communist task is obviously simplified. At this stage the Communist efforts do not constitute a threat that can be crushed by force; rather they represent a concept with which the governments must compete. The contest is a political, ideological, and economic one; the stakes are the loyalty and support of the population.

The Communist resort to force usually follows later. It comes either as a means of accelerating the decline of an already weakened government, or as a recognition that the government is holding its own in the political contest and can only be overcome by violence. Until this stage is reached there is little or no active business for the military. Nevertheless, the quality and availability of the armed forces that will support the threatened governments are critical factors in the

plans and actions of both sides throughout. Where these forces are effective and readily available they constitute a considerable ensurance against the Communists' resorting to any form of open war. Similarly, where suitable forces are nonexistent or not available there is not much inducement for the leaders of a threatened government to fight through its political battle. They are all too aware that their predatory neighbors can and probably will gobble them up at their convenience.

Therefore, appropriate military strength both to repel invasion and to supress insurrection is the essential concomitant to any successful political struggle against communism. In the last analysis the United States Army will have to provide most of this strength. The threat of creeping small-scale Communist aggression appears to be greatest in the underdeveloped areas of the free world, specifically, for the near future at least, in the Far and Middle East. The states of these regions are not economically well off and in many instances they are politically inexperienced. It is doubtful that by even an all-out effort they can build and maintain armed forces strong enough to protect themselves. Certainly, the effort would so disrupt their economies that they would risk losing their political battle.

We have encouraged political and military groupings among these states in order to provide a sense of solidarity and to maximize their strengths, but the military backbone of these groupings has to be American. Paradoxically, for us to urge many of our friends to allocate a greater part of their assets to military ends might weaken rather than strengthen the whole. American foreign aid seeks to reinforce our national security by reinforcing the political and economic structures of the threatened states. American assurance that we will be there to aid them if violence is used against them is the natural and necessary complement to this aid. Furthermore, for our assurance to carry conviction we must possess the means to make it good.

If American military participation and support can be delivered only in the form of massive nuclear blows or after serious time delays, it will serve little purpose, and our proposed beneficiaries may look on it as worse than useless. Ultimate liberation after an atomic war is not an inviting proposition to offer an ally.

Mission for Army of Today

Here then is a valid mission for the United States Army of today. As has been mentioned earlier, maintaining the thermonuclear deterrents against all-out attack is the responsibility of the other services, primarily the Air Force. Maintaining a deterrent force capable of fighting limited, localized wars is equally important. These wars, should we have to fight them, will be in effect battles in the continuing worldwide conflict, the warm spots in the cold war. It is doubtful that any single battle can prove conclusive. They will be battles fought with the weapons dictated by the circumstances of each case, and often these circumstances will be political and not military.

This prospect is a novel one for us and will call for a change in much of our military outlook. But until we have an army organized to fight small wars to political rather than military conclusions and a people reconciled to the unpleasant necessity of supporting it, we will be vulnerable to the present pattern of creeping Communist aggression. Lacking such a force we are not protected against an insidious long-term threat to our national security.

SHOTGUN MARRIAGE

Major Charles A. Dickey, Jr., *Armor*
Student, Command and General Staff College

The views expressed in this article are the author's and are not necessarily those of the Department of the Army or the Command and General Staff College.—The Editor.

WHEN Regina Foote first met Johnny Tank in September 1916 it appeared a perfect match to many in both families. Sophisticated Regina did not quite know what to think of brash and awkward Johnny. It was not so for others of the Foote clan. They just could not see bringing into the family fold one of the noisy and ill-bred Tank tribe. Many a Foote sighed with relief when the flame flickered out and the affair proved just another immature romance.

In later years some of the Tank brothers were not above courting some of the daughters of the Foote family, usually on the sly. Even so Johnny was more than a bit surprised when years later old Dad Foote himself, shotgun in hand, came stalking up to the Tank shanty. Johnny had seen irate fathers marching reluctant males by shotgun before—but what for *this* time? When they arrived at the Foote family church to find no less than Regina herself, old Dad's pride and joy, waiting at the altar, Johnny was downright flabbergasted.

Regina had grown in beauty and poise in the years since Johnny had seen her. Despite protests of some leading elders of his clan old Dad was merely protecting his family's interests, looking ahead to the big feud he could see brewing with some folks across the pond in the next county.

And old Dad was right for when the feud came Johnny and his family joined in. Naturally the Foote and Tank families began to fraternize and hasty marriages followed. By the time they won the big feud they were raising mobs of kids.

However, a shotgun wedding is not always the very best foundation for marital bliss. At first Johnny was happy to be accepted by the Footes, even if of necessity. But quarrels will arise and fester. Regina sometimes accused Johnny of not helping her brothers when they needed him. Johnny would retort that her brothers did not have brains enough to utilize his help properly. And so it went.

Anyway, they decided to stick it out after the feud, just for the sake of the kids. Strange about those kids: almost all of them are duplicates of either Johnny or Regina—same in the other families. Few children inherit the traits of both parents, and those few seem to be lightweights. And there it stands.

Double Moral

The double moral of this little fiction can be boiled down to infantry and armor —farcically disguised as the Foote and Tank families—constantly faced with hasty "marriages" just prior to action; and hasty "shotgun marriages," especially between two of differing estates, are not the best kind.

Antagonisms, misunderstandings, and lack of teamwork are bound to arise. And what is worse, it will probably remain so until both families produce a more versatile offspring capable of continuous cooperation and ready for instant, decisive

action; or until somebody else achieves true integration and kills off all the Tanks and Footes.

Animosity so often occurs because "marriage" at battalion level (or regiment or combat command) is not true integration. The *families* are married rather than the unit tank-infantry teams. The armored division faces a lesser handicap in this respect than the infantry division, but in either case formidable problems exist.

When the division commander "marries" his infantry regiment and his tank battalion (or his armored infantry and tank battalions) he can only perform the ceremony. It is still up to the individual tank and the rifle squad or half-squad to make the marriage a success. Because the tank battalion commander works well with the regimental commander to whom his unit is attached, it does not follow that all tank platoons will work as well with their assigned rifle companies or platoons. One tank battalion commander and three regimental commanders in a division add up to only three combinations at that level—the tank battalion commander with each of the three regimental commanders. But 81 rifle and 12 tank platoons (not to mention squads and individual tanks) can be joined in almost 1,000 combinations.

Both doctrine and experience call for tanks to be accompanied by infantry. It simply is not visualized that a tank battalion should be committed without infantry support. It is not the *battalion* that needs support—it is the individual tank and platoon.

It is equally true that an infantry regiment will seldom be committed without tank support. The infantry regiment's tank company has overcome some of the obvious difficulties of integration and its success may be judged from resistance to doing away with the regimental tank company. For one thing the possible combinations of teams is reduced to 27 rifle platoons and 4 tank platoons. Thus there is greater probability that small units have worked together previously and greater opportunity exists for combined arms training for more rifle platoons. In addition, the improved chances of successful integration and liaison with other armor units which may be attached are apparent.

Concepts of employment of organic and attached tank battalions in the infantry division often place tank units in a reserve role, usually in a separate assembly area, while awaiting clarification of the situation prior to commitment. The essential "marrying up" is accomplished at the last hour, more or less, prior to employment of the division reserve.

Is this one of the facts of war? Apparently so, but should it be thus?

A long look at the doctrine that tanks should be accompanied by foot troops points to the corollary that a tank platoon should seldom operate, even on a separate axis, with no foot troops whatever in close support. Any tank platoon leader who, while 300 yards from accompanying foot troops, runs into a well-camouflaged nest of bazookamen in spiderholes, or a minefield or other barrier, would substantiate the doctrine in particular as well as in the abstract.

The infantry-armor team is constantly faced with hasty "marriages" prior to action. These shotgun unions do not produce strong offspring fully capable of decisive action and survival on the atomic battlefield

Yet, in these hasty marriages so often there simply will not be time to complete the wedding ceremony all the way down to platoon level where it is so vital. To render the problem even more difficult, unless

the foot troops are mounted they cannot keep up with the tanks in any event, once the armor gets rolling.

Even in assembly areas tanks with 4-man crews are going to be hard pressed to furnish local security, especially with the driver doing maintenance, the gunner working on a cannon, two machineguns, and an intricate fire-control mechanism and trying to supervise and aid the loader in checking and stowing the ammunition. That leaves the tank commander who must supervise his crew, receive orders and pass them on, help with the work where the crew most needs it, and also find the time to "marry up" with whatever infantry sergeant or officer he is going to work with—if there is time.

Only the reconnaissance platoon is spared these hasty marriages for most operations. And the reconnaissance platoon is a lightweight unit not designed for heavy slugging.

Why can't our heavy-slugging units stand ready for commitment at any time?

Requirement for Infantry Support

Why do tanks require supporting foot troops *for conventional armor missions?* The requirements can be placed in three general categories:

1. *Protection.*—Protect tanks from infantry tank killer teams while in the attack, defense, assembly area, or bivouac; destroy antitank guns; serve as eyes and ears to locate and point out targets.

2. *Liaison.*—Serve as guides to locate routes and facilitate passage through other units, or through defiles or obstacles, and to facilitate cooperation with other foot units.

3. *Engineer type work.*—Clear paths through minefields and other obstacles; bridge streams and antitank ditches; and lay minefields and construct obstacles to protect tanks and supporting foot troops.

The third category calls for engineer type skills as well as infantry training—a key to possible designation of the mounted foot troops contemplated for continual close support of the tank platoon: armor pioneers.

What is the minimum tank-pioneer team to be kept intact? One obvious solution is to retain a minimum pioneer element with the tank platoon to be available for instant action in attack or defense. Every tank platoon should have sufficient pioneers accompanying to perform those minimum principal missions of protection, liaison, and engineer work essential to effective operation of the platoon in the attack, defense, or reserve. Two squads per tank platoon would permit 3 tanks to be supported by 4 pioneer riflemen each and 2 by 3 riflemen each.

Second Great Problem

Trying to visualize an organization to fulfill these requirements leads back into the second great problem area affecting tank-infantry cooperation. This is simply the great size of the armor unit in terms of area of operation, with the resulting dispersion of command experience over a correspondingly large area—marriage between different estates.

The point is this: An infantry battalion in the attack with 2 companies up occupies a relatively small front so that in a critical area of perhaps 1,000 square yards we find an infantry battalion commander with years of experience, 2 or 3 fairly experienced rifle company commanders, staff personnel, and 6 to 9 rifle platoon leaders

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Major Charles A. Dickey, Jr., is a graduate of Texas Christian University. During World War II he served in Europe with armor and tank destroyer units. He graduated from the Associate Advanced Course of The Armored School, Fort Knox, Kentucky, in 1954. He is Executive Officer of the 249th Tank Battalion, 49th Armored Division of the Texas National Guard, and is currently attending the 1955-56 Regular Course of the Command and General Staff College.

of varying shades of ability to assist the battalion commander in carrying out his mission.

Small wonder that infantrymen may throw up their hands in exasperation at the efforts of a lieutenant charged with operating armor in the same area—and moving relatively long distances at speeds which require even faster responses in leadership and action. Thus we find at a crucial time the actions of a battalion hinging on the professional capability of one tank platoon leader who usually in wartime is a second lieutenant with only 2 or 3 years' military experience.

At Regimental Level

At regimental level the contrast is even more conspicuous. We find the infantry colonel, the very symbol of command and experience, a man prepared for his job by a lifetime of training. And then we find his tank company commander. The colonel can hardly be blamed for comparing, consciously or unconsciously, his tank company commander with his battalion commanders or his other major supporting commander, the direct support artillery battalion commander. This artillery commander is also a man of mature experience and training and one upon whom, in his field, the colonel depends immeasurably.

Yet, it is evident that a commander with the experience and training of a captain, with only 6 guns to maneuver (such as an artillery captain), would achieve far better results than a leader of the second lieutenant level trying to command 5 guns. Or at the next echelon, an armor lieutenant colonel with only 18 guns to maneuver (such as an artillery lieutenant colonel) certainly could turn in an enormously better effort than a captain with 22 guns, or even 17. That assumes, of course, that the captain's 22 guns are massed under his command—which often is not the case.

However, the intention is not to organize 6-tank companies or 18-tank battalions but to point up the danger in further expansion of units already past the critical size for the experience and training of the T/O&E commander.

Few second lieutenants should be expected to have the experience and knowledge to command adequately a combined arms team of 5 tanks and 2 to 4 infantry squads without the close counsel of an armor company commander. An infantry battalion commander would intrust his battalion mission to few of his rifle platoon leaders without direct supervision by their company commanders.

Regardless of the physical courage of the lieutenant, he simply does not possess the knowledge and experience required to make proper decisions and take correct action with no guidance. From intimate acquaintance and personal experience, each higher commander is profoundly aware of the uncertainties faced by his subordinate *in the same branch*. Similar doubts and lack of knowledge displayed by a subordinate in another branch often are foreign and incomprehensible, and naturally so.

The infantry battalion commander would not depend on the unguided rifle platoon leader. Yet, that same battalion commander at a critical time is obliged to depend on the abilities of a tank platoon lieutenant for actions essential to avoid prohibitive losses, or even failure, by the battalion. Such is the situation when a tank platoon is attached to a larger infantry unit. This reveals the pitfalls in merely expanding the present tank platoon, company, and battalion to gain readiness for instant action and continuous protection.

Still, the 5-tank platoon seems to be the proper size for the basic tank unit commanded by an officer. Therefore, building the basic combined arms team presents difficult choices: a 3- or 4-tank platoon with a supporting rifle squad (not enough

tanks); a 5-tank platoon with 2 or 3 squads (too much for 1 officer, yet too little for 2 officers and it would not provide unity of command); and a compromise in a 5-tank reinforced platoon retained under close control of the armor company commander. This would be best attainable by allocating the armor company commander only two tank platoons, which he would maneuver much as a boxer does his two arms and fists. Of course, the boxer cannot throw both fists effectively at the same time as could our 2-platoon company commander. The armor company of two platoons would be kept intact for almost all missions.

Instant and Decisive Combat

On the other hand, let us consider the impact of a 30-tank battalion, consisting of three 10-tank companies, organic to the regiment and requiring no infantry attachments *down at company level.* It would be capable of instant and decisive combat, in sharp contrast to the present 22-tank company and the relative estate or rank, call it what you will, of the regimental commander's major subordinate units would be nearly equal. At the present time his tank company is a major subordinate unit so far as potential combat power is concerned but it does not have equal standing with the other major subordinate commands, the infantry and artillery battalions.

Logical Organization

A logical organization to remedy these inequities would be an armor company of two 5-tank platoons, an armor pioneer platoon and a headquarters. The pioneer platoon would consist of 4, or preferably 5, pioneer rifle squads; a dozer; and a flail or other minesweeping device, each mounted on a tank. These tanks would serve as a base of fire when not clearing obstacles. Also required in most terrain would be a self-propelled assault bridge for rapid crossing of antitank ditches, small streams, railroad cuts, and fills.

Two pioneer rifle squads would be attached habitually to, and become an integral part of, each tank platoon. The remaining squad would serve as close support for the command vehicles and base of fire (and with them as a small reserve for the company commander). In addition the fifth squad could be attached to either of the platoons as required.

The company headquarters would be an extremely abbreviated affair with only command and personnel functions. No executive officer, mess, maintenance, or supply personnel would be required—indeed, they would be a hindrance.

The armor battalion would be composed of three tank companies and a headquarters and service company. The headquarters and service company would be just that with no mortar or reconnaissance platoon. Mess, maintenance, and supply functions formerly accomplished at company level would be performed at battalion. Personnel, maintenance, and supply functions formerly done at tank battalion level would be pushed up to the armor regiment.

The armor regiment of 90 fighting tanks would be only slightly larger than the present tank battalion. This armor regiment would include three armor battalions, a reconnaissance battalion, and a headquarters and service company. Thus the division commander would have a 90-tank regiment ready for instant commitment at the decisive point of combat. The versatility of this armor regiment would double the value of the old battalion.

A note on the reconnaissance battalion: only three companies would be required, one remaining with the armor regiment while the battalion (minus) operated directly under division control. One or both of the remaining reconnaissance companies could be attached to other units of the division as the situation required.

The cry may be raised that armor neither requires nor deserves so much rank in the infantry division. Yet, no such clamor results from the requirement by 18 artillery pieces for 45 officers, including a lieutenant colonel, to achieve effective employment. It would seem inconsistent to expect equally outstanding results from 22 guns commanded by 6 officers (the senior a captain).

What would be so incongruous about a requirement by 30 tanks, reinforced by pioneers, for 20 or 25 officers, including a lieutenant colonel, for effective employment?

At division level the comparison would be:

Division artillery—136 firing units (72 guns plus 64 antiaircraft artillery automatic weapons carriages)—236 officers, including 1 brigadier general.

Armor regiment—140 firing units (90 medium tanks, 23 reconnaissance tanks, 9 reconnaissance mortars, and 18 support guns mounting dozers or flails) plus 45 pioneer rifle squads and 24 command tanks not always firing—92 officers, including 1 colonel as senior. Such an organization would give the infantry division command experience for its armor components equal to the performance expected and needed from this decisive arm.

The Armor Group

The same is true of the armor group which could be a brigade of self-sufficient armor regiments. This present monstrosity, the armor group, hangs around in the wings of the corps stage supposedly to "beef up" the infantry and armored divisions at critical times and places. Yet, it is incapable of attaining anything like its full potential until its battalions are "married up" with infantry. In a fast-moving situation this must necessarily become a type of "latch on as they go by" technique with whatever scraps of foot troops are still available.

In a war of dispersion brought on by atomic firepower potential, with the increased opportunities opened up for infiltrators and guerrillas, the battalions of the armor group would be sitting ducks for tank killer teams—and at no waste of precious uranium. A mere handful of men, in darkness, fog, or rugged terrain could run the short-handed tank crews ragged; pick off a tank here, a leader there, until the personnel were exhausted, maintenance half done, and the fighting strength sapped. Organic pioneers could easily prevent this.

Another advantage in such a concept would be the saving in engineer troops for more specialized tasks. This would help alleviate the ever-present shortage of these essential technicians—a shortage which can only be amplified by atomic war. It would also minimize the emergency misuse of engineers in infantry and pioneer jobs.

Conclusions

In the field of tactics organization for combat in the division would be immeasurably speeded. The armor regiment commander and the infantry regiment commander he supported would be able to accomplish the bulk of what little "marrying up" would be required just between themselves. And they could do it in the short time which actually will be available.

No infantry attachments would be essential. This would not prevent cooperation between tank and infantry battalions. It would facilitate such cooperation.

The infantry regiment commander would have his own organic 30-tank armor battalion. The same principles would apply at company level. Platoon and squad-tank marriages would not be essential as is now the case.

At battalion, regiment, division, or corps the infantry-artillery team would be able to depend on attached armor units designed for instant combat. These armor units would be mature and tactically self-

sufficient, not juveniles drawing away combat power from the infantry units.

In the armored division the difficulties of tank-infantry marriage are alleviated by more combined training, more tanks and tank units available for training, greater interdependence, and the resulting better understanding. Also, relations are more nearly equal; that is, the armored infantry battalion commander normally looks to an attached tank *company* commander who is on a par in training and experience with his rifle company commanders. Likewise the combat command commander operates through infantry and tank battalion commanders of relatively equal ability. Although we do not find a colonel dependent on a lieutenant or captain commanding a major element of his force, the basic problems remain. They just are not as pressing as in the infantry division.

The key to more compact, harder hitting fighting formations can be found in a standard tank-foot team at company and platoon level.

In the past successful commanders have improvised to achieve some of the goals of this tank-foot concept. The more we develop concepts of dispersion, rapid massing for decisive action, and equally rapid redispersion the more pressing will these problems become. Improvisation will not do.

Regina and Johnny and the other members of the Foote and Tank families must produce a more versatile offspring capable of continuous cooperation and instant action in order to survive in feuds where the weight of numbers in both armor and infantry are massively stacked against them.

Hasty, shotgun marriages do not build strong families capable of survival on the atomic battlefield.

In the last analysis, soldiers will always be the men of final decision. Artillery, atomic and conventional; tanks, machineguns, mortars, bazookas, and all the rest of the military arsenal are helpful, but they represent military power only in the hands of trained and organized men. It takes men on the ground to resist troops on the ground. The notion that wars can be fought and won by remote control, with machines and pushbuttons, is a dangerous myth which, if encouraged, can lead only to psychological, spiritual, and physical unpreparedness for the realities of military conflict.

Our Army . . . is a major component of our Nation's power to deter aggression or to win the victory. Our modern Army is equipped with both atomic and conventional weapons. Our Army of today has great versatility. It can apply force, great or small, with measured discrimination. It can use the right amount of force at the right time in all types of weather and on all types of terrain. In fog, rain, mountains, desert, and jungle—and from the silent thrust of a bayonet to the instantaneous release of greater destructive force than man has ever heretofore witnessed in combat, the Army is ready to supply the indispensable answer on the spot.

Secretary of the Army Wilber M. Brucker

JOINT MEDICAL SERVICES IN THEATER OPERATIONS

Captain H. J. Bowen, *United States Navy*

The views expressed in this article are the author's and are not necessarily those of the Department of the Army or the Command and General Staff College.—The Editor.

LEGEND has it that someone once asked Daniel Boone, the famous American frontiersman, if he had ever been lost, to which Boone replied, "Well, I wouldn't say I was ever exactly lost, but one time I was bewildered for about 10 days."

Think of this subject in this way. Occasionally, even the most experienced woodsman gets "bewildered" in the forest. One of the things he is sure to do sooner or later is to climb a tall tree to have a look around, get his bearings, and pick out reliable landmarks to guide him on his way. The objective of this article, therefore, is to offer the reader a "tall tree" in the form of a brief review of the nature and scope of one of the vital ancillary military activities, medical services, which it is hoped will serve as a guide to their role, and to a better understanding of the part they should play in joint theater operations.

Every military man knows that each of the armed services has its medical elements, and even the smallest independent military units have a medical department, medical officer, and/or a qualified medical corpsman to render assistance when required. On the other hand, the average military officer often knows very little of the varied types of medical services required in a theater of operations, their medical-military responsibilities, organization, staff relationships, and principal functions.

From the standpoint of enlightened professional self interest it is devoutly believed that most actual and potential military commanders will genuinely welcome an opportunity to gain a clearer idea of what they may or may not expect in the way of medical planning and medical services to support their operations. So without attempting to accentuate the importance of military medicine or embellish its far from prosaic achievements, it is hoped to show how efficient medical services can build morale and improve the military capabilities of a theater command. History reveals that most consistently successful military leaders invariably considered these factors to be essential to victorious military campaigns.

With the current trend toward combined service participation in warfare, it seems highly unlikely that any military operation of the visible future, unless rigidly

The medical elements of military forces involved in combined operations must be skillfully tailored and judiciously blended if they are to provide effective and harmonious medical support to the combat forces

limited in mission and scope, can be the exclusive responsibility of a single United States military service or of any single nation. The validity of this idea is difficult to disprove when one reviews present international treaties, alliances, and the military considerations which precipitated such organizations as NATO and SEATO. Aided by these events it appears that the "Joint" or "Theater" doctrine of operations has now become a fixed and vital factor in the technique of modern warfare, at least for the predictable future. Under such circumstances the medical elements of military forces involved in combined operations must be skillfully tailored and judiciously blended if they are to provide effective and harmonious medical support to the combat forces.

The importance of theater medical services can be better appreciated if one knows what these agencies are meant to accomplish, or, in military terminology, knows their mission. Under present law the basic missions of the Army, Navy, and Air Force medical services are identical—in essence, they are the "conservation of effective military manpower." Actually, the missions vary only in minor details in keeping with the special weapons systems normally employed by each service, and with the land, sea, and air characteristics of the media in which the respective services normally operate.

Three Headings

Perhaps this broad medical mission can be better illustrated by taking the strictly artificial point of view that the Armed Forces are primarily concerned with human beings as component parts of a fighting machine, and apply a purely theoretical corollary that the primary obligation of the medical services is to the military organization as a whole, and not to the individual soldier, sailor, or airman. Such a coldly materialistic concept naturally is completely unacceptable to Americans as it violently belies the obvious and very genuine solicitude that all of the military services have for all of our fighting men.

With this idea as a background, it does enable one to place the medical mission in better perspective if we compare the conservation of manpower with the conservation of matériel. This is usually accomplished under three separate although closely related headings: acceptance, maintenance, and rehabilitation. By employing this idea the medical mission becomes readily translatable into the above terms. Thus acceptance becomes the physical and mental selection of individuals for the armed services; maintenance becomes preventive medicine and the medical care necessary to keep individuals at their duties; and rehabilitation becomes the actual repair and restoration of the more severely sick and wounded minds and bodies. By this admittedly artificial device, the over-all theater medical mission of the selection, maintenance, and rehabilitation of manpower can be brought into clearer focus.

First, then, let us consider selection or acceptance. The first step in any conservation program is the elimination of faulty matériel not worth the cost of retention. The theater medical service normally does not have much to do with the broad prob-

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Captain H. J. Bowen was Senior Medical Officer of a cruiser in the Pacific, and Surgeon at the United States Naval Hospital, Honolulu, during World War II. Following his graduation from the United States Naval War College in 1948 he was assigned to the faculty of the Armed Forces Staff College in the Research and Development, and Logistics Departments. He went to Europe in 1950 as Senior Staff Medical Officer for the Commander, U. S. Naval Forces Eastern Atlantic and Mediterranean. During this period he was engaged in logistics planning for the Commander and also for the Commanders of the Allied and Naval Forces, Southern Europe. He is presently assigned as Senior Medical Officer at the U. S. Naval Training Center, Great Lakes, Illinois.

lem of selection, but it does have a definite responsibility to eliminate all substandard manpower not worth the effort and cost of combat and/or operational training. This is accomplished by multiple screening processes which are carefully designed to eliminate individuals who do not meet the established minimal standards of physical, mental, and moral fitness.

Second, maintenance or routine preventive medical care is a definite theater medical service function and responsibility and is the real guardian of the physical and mental health of any military command. For example, if selective standards are revised downward, due diligence in all phases of preventive medicine and routine medical care, plus a judicious military job assignment for the individual, will permit the effective utilization of certain categories of physically and psychologically handicapped personnel. This is extremely important when a manpower shortage exists. Logistically speaking, it is of the greatest importance to understand that when adequate attention is devoted to medical maintenance there will be a corresponding decrease in the need for such human repair agencies as hospitals and evacuation systems, all of which are as highly necessary as they are costly.

The third heading is rehabilitation which is regarded here as all those medical, psychological, and administrative processes which are required to restore ill or wounded individuals to useful activity. Medically, rehabilitation closely parallels the material function of major repair, and is without question the most exacting and expensive operation that a theater medical service is called upon to perform. Beginning at the forward aid station, it ends only when an individual is either restored to duty or evacuated to a hospital back in the United States. Rehabilitation includes all of the medical imperatives, such as emergency life-saving measures, hospitalization, and the various phases of evacuation. This also includes the operation of appropriate medical holding facilities at points of departure and at en route stopovers along the evacuation chain. The joint theater medical service is vitally concerned with rehabilitation from a personnel replacement point of view, but technically it is responsible for that function only during the period a casualty is actually within theater boundaries.

Responsibilities Outlined

Having considered the mission and general nature of theater medical services, their military and medical responsibilities can be more clearly outlined. Because these have profound command relationships it seems appropriate to begin their discussion by restating three venerable military axioms: a commander is directly and inescapably responsible for all that his command does or fails to do; no member of his staff may exercise command authority except in his name; and his command responsibilities cannot be shifted to his staff or delegated to a subordinate commander.

Although these ancient truisms have been worn to near invisibility in passing through the hands of countless military writers, they still remain among the immutable principles of command. Combined they are perhaps the most potent single factor contributory to achieving that full unity of effort which is so vital to the common success of any joint military operation. Without them it is possible for the best planned and most skillfully executed operations to fail in the face of a highly stressful military situation which demands immediate decisions and complete coordination.

With all this clearly in mind, it must logically follow that the military responsibilities of joint medical services are first of all to the theater commander, and then through him, to each respective department. On the other hand, the strictly med-

ical responsibilities are first to the individuals of the military units of the theater command.

Although admittedly dependent to a considerable extent upon the military training, knowledge, and capabilities of the theater staff surgeon, the ultimate quality of the medical service in any military theater will be in almost direct proportion to the degree of command support and authority the theater commander gives to this officer. This includes allowing the surgeon the freedom of action necessary to balance the many theater medical tasks against the sometimes limited medical means available to carry them out.

Because an unreserved acceptance of this premise is believed so essential to the success of theater medical operations, and because it is often and perhaps unthinkingly minimized by commanders and staffs alike, it seems worthy of further elaboration. For example, there can be little doubt that the over-all quality and effectiveness of theater operations will be significantly impaired if the theater commander and staff fail to utilize the surgeon's military-medical experience, and do not make available to him the timely intelligence and operational data which is so necessary for medical planning. On the contrary, repeated experience shows that when due consideration is given to these factors and a theater commander allows himself to be guided by sound medical plans, policies, and recommendations, he is certain to command forces with high morale, ready and capable in combat.

Having examined the general military responsibilities of theater medical services, the strictly medical tasks which they must perform can be listed. These are the physical selection of individuals; all phases of preventive medicine and sanitation; medical training and research; first aid and hospital care; evacuation; medical logistics; medical intelligence; medical aspects of special weapons systems; and medical administration. Individually and collectively, these responsibilities are tripartite. The first and most crucial part is to the sick or wounded individuals of the military unit to which the medical element belongs. The second part of this responsibility is to the theater medical military organization as a whole; and the third part of this triple responsibility is to the theater commander, and through him, to the respective medical departments of each military service under his command.

The Theater Surgeon

Although these responsibilities are interlocking and complementary, their organizational and operational arrangements and procedures are quite distinct. From the organizational standpoint the medical services are a major component of a theater command. They are represented by a theater surgeon who is a member of the theater commander's special staff. He is directly responsible to the commander for the operations of the theater medical staff, the formulation of over-all medical policies and plans, and for providing such medical advice and recommendations as may be required. Operationally, the theater medical services normally conduct all but their strictly technical and professional activities through the theater logistics division, one of the major general staff sections. In medical matters, however, they are still responsible to their respective medical departments, but through theater command channels.

Even a brief discussion of the theater medical staff relationships and organization would be incomplete without more specific reference to the theater surgeon, his official role, and his command and staff relationships. As previously stated every theater staff includes a staff surgeon. There have been instances known to the author, however, where this individual unhappily found himself with the title but

without the actual job, and with the responsibilities but without the authority or command support necessary to carry them out. Fortunately, these occurrences are about as rare as they are militarily unsound, and are only mentioned to again stress an important point—that proper and effective theater medical services can never be achieved, nor should such be expected, unless the commander has selected a fully qualified medical officer as his theater surgeon, and has given him the authority to function in this capacity as a fully participating member of the theater staff. Also, it may not be amiss to further point out that all too often medical staff assignments are based upon personal factors rather than ability; or what is perhaps even worse, they are left to the discretion of some detail officer who may himself lack a full and adequate understanding of the special qualifications that such a job demands.

As a member of the theater commander's special staff the surgeon has some general military medical responsibilities which include: the over-all supervision of matters pertaining to the health of the command; supplying medical policies, plans, estimates, and recommendations to commander; assisting the staff in the preparation of medical estimates, plans, operation orders, and reports; coordination and technical supervision of the medical staff sections and the medical activities of subordinate units; and establishing and maintaining medical liaison with adjacent or higher commands, and appropriate civilian medical authorities and agencies.

Theater Medical Structure

Because of the peculiar and often confidential nature of his duties and responsibilities, the staff surgeon must also have direct access to the theater commander in a variety of matters. Also, the theater surgeon has a very real and lively interest in every division of the general staff.

Now for a brief look at the structure of a theater medical organization. Insofar as the author has been able to discover, there is no officially prescribed usage or even generally recognized form for the organization of a joint or theater medical staff. It is fairly obvious, however, that the composition and internal organization of any workable theater medical staff must be dictated by such considerations as: the over-all theater mission and campaign plan; the nationalities and types of the military units deployed to the theater; and the type of operations expected for each phase of the campaign. Once the functions and responsibilities of the theater medical staff and services are fully provided for, a diagram showing the details can be executed by any competent medical planner.

The chart on page 61 illustrates one type of theater medical staff organization which is believed to be medically and militarily acceptable. It is essentially functional in form and covers the principal phases of theater medical operations.

The organization shown on this chart is extensive and not likely to be available to any theater commander except in war. Although many of the billets shown should remain unfilled during peacetime, it is highly desirable, especially from the planning viewpoint, to have ready a skeletonized organization which can be quickly expanded. In peacetime a small theater medical staff, consisting of a theater surgeon and a small staff of technical and administrative assistants, is usually quite satisfactory. This is especially true when but one service is operating in a theater. However, in a theater composed of mixed services the medical staff should consist of a theater surgeon (preferably from the service of predominant interest), his immediate assistants, and qualified staff medical officers from the other services involved.

Such an arrangement is desirable and

feasible only in peacetime and in those theaters where joint operations are minimal. In war theaters having more balanced proportions of Army, Navy, and Air forces, a permanent, centrally located, and well-integrated joint medical staff with proper combinations of service representatives is essential.

Once a joint medical staff has been organized, the first responsibility of the theater surgeon is to establish a clear-cut agreement as to the division of medical responsibility among the theater military services. This division of responsibility is a command decision and must be directed by the theater commander. The second step is for the commander to clearly establish broad general medical policies which define and govern all the phases of medical activities.

In the actual operations of the theater medical services the theater commander exercises operational command through the senior theater commanders of each of the military services assigned to him. These commanders, therefore, have most of the operational medical responsibilities and each, in addition to being responsible to the theater commander, continues to remain accountable to their individual departments for certain special types of medical activities which fall within the exclusive purview of each service.

Having considered the general role of the medical services in theater operations, it may be helpful to examine briefly their more important staff functions. These are medical plans and policies; preventive medicine and sanitation; hospitalization; evacuation; and medical logistics.

Effective medical planning must be preceded by an announcement by the theater commander of over-all medical policies and basic planning factors. There are two principal ways in which planning factors are obtained: from a medical estimate of the situation, and from actual experiences gained in other similar theaters and/or operations. These policies and planning factors provide the indispensable guidance which is required for the medical planning effort to proceed in an orderly fashion and along feasible lines. Also, the prompt announcement of broad theater medical policies and planning factors establishes at once the actual framework upon which all components of the theater medical services can build and coordinate plans for their operations. This is of great importance as it serves to eliminate logistical chaos and waste, two thriftless handmaidens of redundant military duplication.

Medical Estimate

With medical policies established, medical planning begins with a medical estimate of the situation. This is based upon approved theater campaign plans and prepared by the theater surgeon. The preparation of such an estimate requires essential information from practically every division of the general staff, but particularly vital is that which emanates from intelligence and operations.

A proper medical estimate takes into consideration the following: the theater mission or missions; the characteristics of the theater; physical and psychological factors; strategic, tactical considerations, enemy capabilities, and weapons systems; lines of communication; hospitalization; evacuation channels; and medical supply. When completed the medical estimate becomes the foundation upon which the final medical operation plan is based.

The medical operation plan is the medium through which the theater commander provides for those medical services which he considers necessary to meet the needs of his command throughout the entire period of projected operations. To be feasible and acceptable the medical operation plan must among other things indicate anticipated casualty rates and casualty replacement forecasts. There are two reasons for this: to determine the types and quantities of theater medical

requirements and to enable the theater commander to plan for the orderly replacement of noneffective personnel. Casualty estimates or rates, like other planning factors, are only statistical averages taken from the experience tables of other similar operations or, when such information is lacking, are developed from such usage factors and data as may be available or by extrapolation.

Casualty estimates are prepared for all special types of operations as well as for theater operations as a whole and are normally divided into the broad categories of battle and nonbattle casualty rates. It is well for commanders and planners alike to ponder the fact that with the new offensive weapons systems presently available, the current experience tables deducted from past campaigns may no longer provide accurate indices for making casualty forecasts.

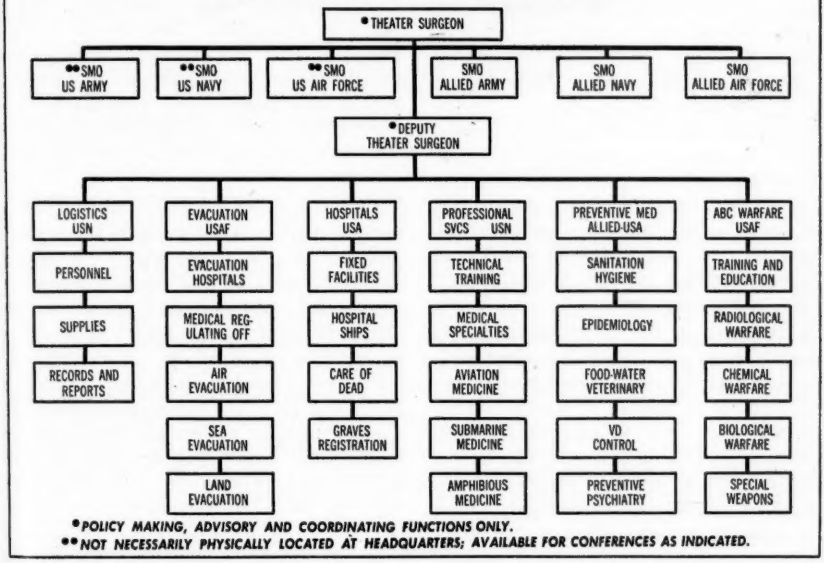
Casualty rates are usually expressed as the number of casualties per day per thousand troops involved in an operation. Thus a battle casualty rate of 2.0 indicates that for each thousand troops in an operation, two will become casualties each day.

The medical plan is prepared by the theater surgeon and when approved by the theater commander it becomes the vehicle through which medical services are provided for theater operations. Although a medical plan may vary rather widely in its form, it must be comprehensive enough to provide for adequate medical services to all elements of the theater command, and show the what, when, why, where, and how of the proposed medical operations. To assure this the finished plan regardless of its format must include the following:

A statement of the medical situation.

A statement of the medical mission.

A JOINT THEATER MEDICAL ORGANIZATION



*POLICY MAKING, ADVISORY AND COORDINATING FUNCTIONS ONLY.
**NOT NECESSARILY PHYSICALLY LOCATED AT HEADQUARTERS; AVAILABLE FOR CONFERENCES AS INDICATED.

A brief concept of medical operations.

A workable scheme for coordinated action by all medical elements.

A clear-cut delineation of the medical responsibilities of each element of command, with emphasis on any necessary shifts in responsibility, to coincide with the different phases of operations. Provision for hospitalization and evacuation.

Medical supply, replenishment, and cross service interchange and use of supplies, equipment, and personnel. Medical intelligence—biological warfare—chemical warfare, and atomic warfare.

Medical records.

A second major function of the medical services is preventive medicine and sanitation. This includes the administration of all required immunizations, supervision and teaching of group and personal hygiene, and field sanitation, all well-known phases of military life which need no particular elaboration here.

In addition to the usual training and indoctrination in first aid and other medical subjects, it is now necessary to conduct training in how to determine the existence of such special offensive hazards as gas, biological agents, and radioactive contamination in areas of operations.

A third major theater medical service is hospitalization consisting of the establishment of all the categories of general and special hospitals needed to provide the various types of medical care required by theater personnel. Hospitalization covers all procedures associated with this aspect of medical service. This includes hospital locations, size, their opening and closing dates, and the role and movement of hospital ships. Hospitalization also covers all modifications in personnel and equipment and their administrative control.

Hospital requirements of a theater of operations are computed in terms of total beds in hospitals and convalescent facilities but does not include the medical units normally assigned as organic elements of individual theater military organizations.

Theater Evacuation Policy

We now come to a fourth major function, evacuation. This is the process of moving casualties rearward from combat areas to medical facilities situated along the chain of evacuation which terminates in stateside hospitals. Before evacuation can proceed a theater evacuation policy must be established. This too is a command decision and indicates in days the maximum period that patients may be held within the theater for treatment. The evacuation policy is expressed in a specific number of days—10, 30, 90, 120 days, or more.

In the makeup of every military commander worthy of the name is the natural and logical desire to retain control of as many operationally trained personnel as possible, and for this reason a theater commander often makes it a policy to retain such personnel in the theater for lengthy medical care. Before such a policy can be safely adopted, however, the wise commander will conscientiously weigh the medical merits and demerits of such a course of action. He must remember that his final "command decision" as to the length of an evacuation policy will exert a profound effect upon all aspects of theater medical requirements and transportation.

For example, a long evacuation policy allows the theater commander to maintain a high experience level among his forces. It decreases the requirements for evacuation transportation and facilities, and at the same time diminishes the load on his system of personnel replacement. These advantages, however, can only be gained by greatly expanding all intra-theater medical requirements such as hospitalization, personnel, supply, and local transportation. Conversely, when a short

evacuation policy is established, the increases and decreases discussed above are almost entirely reversed, and fewer intratheater medical facilities, but greater extratheater evacuation resources such as transportation will be required.

We now come to medical logistics consisting of personnel, supplies, and equipment. This is the last, and undoubtedly the most arduous, of the theater medical service functions. Medical logistics, in addition to being subject to the usual civilian versus military supply and demand for personnel and matériel, frequently finds itself in direct competition with military "beans and bullets" for the always chronically short transoceanic shipping space. Since every theater commander is responsible for providing for the logistical support of all forces under him, the creation of an acceptable medical logistics pattern frequently demands some very astute command decisions.

To understand this medical logistics problem of providing personnel, supplies, equipment, and services, it is first necessary to give full consideration to three well-known basic logistics equations—the determination of requirements, procurement, and distribution.

It is certainly not redundant to state that these three equations are so interdependent that not one of them can long operate without the support of the other two.

Medical Requirements Determination

After the basic medical guidance and planning factors have been established and the necessary command decisions announced, the theater surgeon can proceed with a determination of theater medical requirements. This first step in the solution of a medical logistics problem, unless correctly handled, may vitiate an entire medical operation. Medical requirements are determined by the use of mathematical formulae derived from previous experiences, usage data, and statistical factors. These are used to compute the medical requirements called for by the theater medical operation plan. For example, the formula to determine the total requirements for a particular item of medical supply would be: the usage rate of the item, multiplied by the strength of using personnel, multiplied by the number of days of the expected operation. Each medical service has the responsibility of determining its own requirements; however, the over-all coordination and preparation of a composite statement of the theater medical requirements is a definite responsibility of the theater surgeon and his staff.

Requirements are determined through dual and vertical type approaches. The first approach, which determines the short or medium-range needs, begins at the individual unit level. Here, all the medical needs of the smallest units are computed, added to those of other units, and sent along upward via command channel through all echelons. Finally, at the theater level there emerges a composite and comprehensive statement of total theater medical requirements.

The second approach is largely for the purpose of broad preliminary planning and for testing the feasibility and acceptability of future or long-range operations. It is the exact reverse of the former process and has its beginning at those levels where national and international objectives, and the strategy and economics for their attainment, must be known before a determination of requirements can proceed.

The second basic equation of the logistics problem is procurement which can be defined as the acquisition of bulk medical supplies, equipment, and the various categories of personnel. This is largely a supply function and is sandwiched between the determination of requirements and distribution. It may be thought of as the

main focal point of contact between the civilian economy, the Department of Defense, and the theater of operations. Procurement is a vast field whose complexity is increasing in direct proportion to the constantly changing and revolutionary types of weapons systems being produced.

In theater procurement it is of great importance for the theater surgeon to plan so that medical items may be received at appropriate intervals and be available in the right places at the right times to support military operations.

Due provision must also be made for the time and space factors affecting replenishment schedules, and for unexpected tactical reverses and losses of critically needed medical supplies, equipment, and personnel.

Distribution is the final equation of the medical logistics problem. It begins with the accumulation of personnel and matériel in suitably located storage installations, and ends only when they are delivered to the operating units. The relationship of distribution to transportation is so close as to make the two functions almost indivisible.

Summary

In closing it seems appropriate to summarize the following salient points:

First, the basic character and over-all mission of the three United States military medical services has been outlined.

Second, suggestions for the organization of a joint medical staff have been offered.

Third, an earnest effort has been made to display the joint medical services in their proper perspective within the military framework of theater operations.

Fourth, it is devoutly hoped that both present and future military commanders who read this have been made more aware of the joint medical staff organization, its close relationship with the other staff divisions, and of the role medical services can and should assume in theater planning and operations.

Fifth, the principal military and medical responsibilities and functions of the theater medical services have been set forth and comments made upon those factors which are believed to affect successful medical operations.

And finally, the author particularly cherishes the hope that the reader has been made fully cognizant of the fact that theater medical services, whether joint or unilateral, are directly dependent upon the degree of command support and recognition the commander gives his staff surgeon, and the professional freedom of action which he allows him in balancing the medical tasks to be accomplished against the theater medical resources available for their implementation.

The effect of an adequate medical service readily available at all times to our fighting troops is measured by far more than mere physical benefits. It extends to the mental well-being and esprit of fighting men. Knowledge that they will receive quick and skilled medical assistance exerts a profound effect on soldiers in battle. Therefore, we must conclude that the medical service is a most vital element of any combat force.

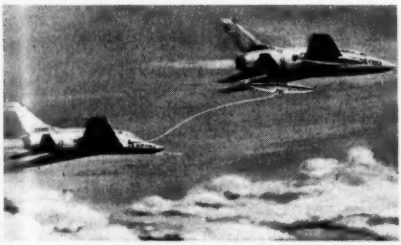
Lieutenant General W. B. Kean, Retired

MILITARY NOTES AROUND THE WORLD

UNITED STATES

'Buddy System'

A "buddy system" of flight refueling which would enable an Air Force supersonic *F-100* to take fuel from another *Super Sabre* is under development. The installation of the probe and drogue re-



Study "buddy system" for flight refueling.

fueling unit in the Air Force's first operational fighter capable of exceeding the speed of sound in level flight will greatly extend its range or make it possible to increase its bombload. The equipment being developed is a small, lightweight, highly compact hose reel housed in a streamlined external pod similar in contour to other fuel tanks. Upon completion of refueling, the entire equipment is automatically stored within the streamlined pod so that aircraft performance is not impaired. In addition to the fuel available within the refueling pod, the *F-100* fighter-tanker will be capable of dispensing fuel carried in its internal fuel system and in other external tanks.—News release.

Tactical Camera

Serving as reconnaissance eyes and ears for the Army are the new 8-pound tactical television camera and the handy-talkie radio. The camera's transmitter, weighing 47 pounds, is carried on the back of the camera operator. It has built-in batteries thus freeing the cameraman for the first

Develop light television camera for Army.

time from the cumbersome cable connections on earlier models that harnessed him to a separate power supply and limited his movements afoot. It can send pictures continuously for 2 hours. Pictures up to

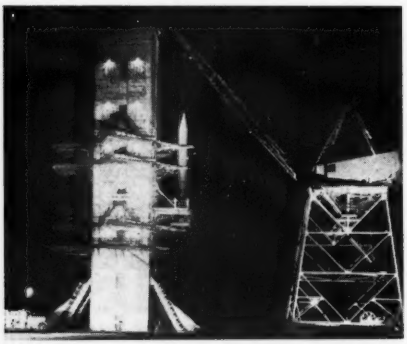
a mile away are picked up by the camera. Cameramen may now reach previously inaccessible spots and are able to move about at will. The camera has four interchangeable lenses and can be either hand carried or mounted on a tripod for unattended operation. The receiver, with a 10-inch aluminized picture tube, is usually mounted in a jeep for fast mobility, although it may be used in a foxhole. The jeep's electrical system provides all needed power at the receiving point. This latest combat aid was developed by the Signal Corps Engineering Laboratories.—News release.

Unusual Vessel

The Navy's new fuel and cargo-ammunition carrier, *Kawishiwi,* is also fitted for use as a hospital ship. Equipped with operating rooms, X-ray room, and a main ward with 32 bunks, it is said to be better equipped for handling battle casualties than many cruisers.—News release.

Static Test Stand

Dwarfing even the huge *Redstone* guided missile, the Army Ballistic Missile Agency's new static test stand is as tall as a 15-story building. It is located at the

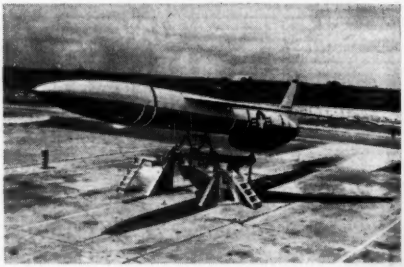


Huge static test stand for new missiles.

Army Ordnance Redstone Arsenal, Huntsville, Alabama. The *Redstone* is shown being lifted into place for a night test. —News release.

Intercontinental Missile

The Air Force's *Snark SM-62* long-range strategic missile is undergoing tests at the Air Force Missile Test Center, Patrick Air Force Base, Florida. The *Snark* is a winged pilotless bomber capable of



Say *Snark* flies 2,000 miles in test run.

delivering an atomic warhead over transoceanic distances. The missile recently was reported to have flown over 2,000 miles in a test run. It is 32 feet long and 4½ feet in diameter. It flies high and close to the speed of sound. No official information on the missile is available as missile-test and performance information is secret.—News release.

Electronic Brain

Bizmac, the Army's giant electronic brain in the Ordnance Tank Automotive Command at Detroit, is nearing completion. The intricate data-processing system will soon be put to work keeping track of more than 200,000 items on hand in Army depots all over the world. It can give a complete inventory in minutes when supplies fall below the safety level.—News release.

Outer Space Lab

The United States Air Force is experimenting with test equipment specifically built for outer space research. The device, developed by the School of Aviation Medicine at Randolph Air Force Base, Texas, consists of a hermetically sealed cabin which will give researchers most of

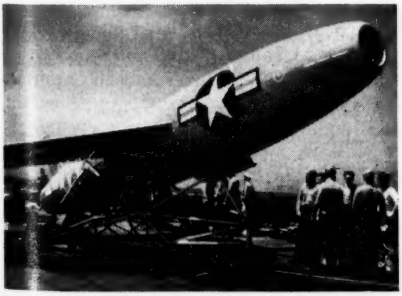
the sensations they would have on an actual flight in space, and simulates conditions that would be found in the cramped quarters of a spaceship far outside the earth's atmosphere.—News release.

'Regulus'

Designed for launching from submarines, surface ships, and shore bases, the versatile *Regulus* guided missile has increased tremendously the striking power of the Navy's surface and submarine

Catapult launching for new guided missile.

forces. Now in full-scale production, the missile can deliver a powerful warhead at transonic speeds over a range of hundreds of miles, guided along its course by a built-in electronic "brain." It is the first

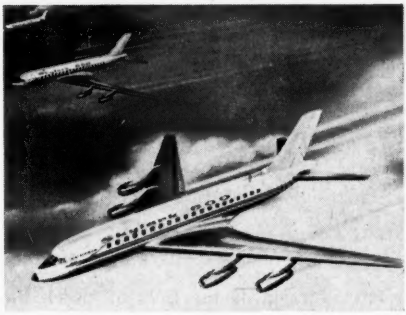


Lightweight cart developed for *Regulus*.

Navy surface-to-surface guided missile to become Fleet-operational. *Regulus* was designed in two versions: a recoverable test and training missile with a retractable landing gear, and a nonrecoverable tactical missile. This unique recoverability concept was responsible for much of the exceptional versatility of *Regulus* and led to new developments in certain elements of the missile system that extended the usefulness of the weapon far beyond its original mission and extended development in simplified training. Navy crews have successfully launched *Regulus* from cruisers, aircraft carriers, small surface ships, and from portable launchers ashore, as well as from submarines.—News release.

'Skylark 600'

The *Skylark 600* medium-range jet transport, the fastest commercial airplane in the world, will be ready for delivery to airlines early in 1960. The swept-wing plane will be powered by the new *CJ-805* jet engine, commercial version of the *J-79*



Promise jet transport for 1960 delivery.

scheduled for use in a number of new supersonic Air Force and Navy planes. The thrust rating and gross weight of the engines are still classified. The advanced 4-engine jet is designed to operate from 5,000-foot runways and will bring 609-mile-an-hour cruise speeds and silent, vibrationless luxury to air travelers. The first-class version of the new plane will carry 80 passengers, while the coach version will be able to carry 99 passengers. The plane will cruise at 35,000 feet and the fully pressurized and air conditioned passenger cabin will be maintained at the 8,000-foot comfort level.—News release.

TAC Gets 'B-66s'

Tactical Air Command has received the first operational *B-66* bombers. The new twin-jet, all-weather tactical bomber operates at speeds of 600 to 700 miles an hour at altitudes of over 40,000 feet. Powered by two *J-71* turbojets, it can be refueled in flight. It has a wingspan of 72 feet, is 75 feet long, and is armed with twin 20-mm cannon in a remote-controlled tail turret.—News release.

Command Transport

The Army has ordered six model *D50 Twin-Bonanza* executive type aircraft for command use in the field. The plane is

Army orders new executive type aircraft.

a later version of the *L-23* of which the Army already has a large number. The plane is used by the Army for general utility, liaison, and twin-engine training purposes. The new version is equipped with high compression engines and has a cruising speed of 203 miles an hour and a service ceiling of 20,000 feet. It has a maximum range of 1,230 miles with standard tanks. The *D50* will seat six persons and will carry complete instrumentation for all-weather flying. Its functional design facilitates easy modification for a wide range of other military applications, such as cargo, ambulance, and photographic missions. The plane is exceptionally well suited for operation from small airfields.—News release.

Quick Takeoff Plane

Plans for a new type of airplane with four flattened-out engines designed to give the plane the capacity for quick takeoffs and short landings were recently disclosed by the Army. A conventional plane normally uses only a third of its wing surface for the engines, which are bunched close to the fuselage, while the new Army craft will employ the principle of spreading the engines out as much as possible over the entire length of the wing. The plane will use piston engines rather than jets. The Army looks for the new principle to provide so much added lift that the plane will be in the vertical takeoff or short takeoff and landing class. The Army has awarded a research and development contract for approximately 1 million dollars for the project.—News release.

Tropical Uniform

Officers and enlisted men assigned to Fort Monroe and Headquarters CONARC will wear the new tropical garrison uniform this summer. This uniform consists of a short sleeve shirt, shorts, knee length socks, brown low quarter shoes, and service cap for officers and warrant officers, or garrison cap for enlisted men. Insignia will be the same as that currently worn on the summer uniform and the approximate cost of shirt, shorts, and socks will be 6 dollars.—News release.

Radar Room Lighting System

The development of a new lighting system for radar rooms which provides greater efficiency for the radar scope observer and at the same time assures compatible lighting conditions for other personnel working in the same room has been announced by the Air Force's Air Research and Development Command. This system uses blue lighting for personnel not observing the radar scope. At the same time, a transparent orange filter on the radar scope provides the observer

with a picture whose clarity is only slightly reduced by the general blue lighting.—News release.

Rapid Descent

Using outrigger and rear landing gear as high-speed brakes, the 600-mile-an-hour *B-47 Stratojet* medium bomber is capable

6,000-foot-per-minute drop for *Stratojet*.

of making a 6,000-foot-per-minute descent from high altitude in penetrating a traffic control area.—News release.

Army Atomic Power

Studies are being made to determine how nuclear power might be applied to Army transportation equipment used in land and water operations. Rail locomotives, several types of Army harbor and inland waterways craft, and special cargo-carrying land vehicles of large size, known as "land trains," are being considered in the study.—News release.

Altitude Test Chamber

The Air Force has a new test chamber for use in studying the effects of very high altitude flight on men and to aid in designing protective equipment for pilots. The 148,000-dollar, 46-ton chamber is the largest of its type in use by the Air Force. Using special valves and new high-speed pumps, it is possible to decompress this chamber as quickly as an airplane would be decompressed if its canopy were blown off. This is a condition that other such chambers have only been able to approximate. It can simulate altitudes in excess of 150,000 feet.—News release.

ECM Trainer

An electric countermeasures trainer being developed for the Air Research and Development Command will provide classroom simulation of all types of electronic emissions, such as various types of radar, guided missile control, microwave communication equipment, and commercial installations. The trainer consists of the instructor's console and student booths. The student booths are mockups of the ECM positions in typical aircraft, and an intercom system connects it to the instructor's console. This equipment permits training in all phases of operation that the student may encounter under actual combat conditions.—News release.

In-Flight Refueling

The feasibility of in-flight refueling for helicopters was demonstrated recently by Marine Experimental Squadron One at Quantico, Virginia. The system employed

Marines test in-flight refueling system.

the probe-drogue technique developed for in-flight refueling of carrier-based jet aircraft. For the demonstration, the equipment was handmade by the Marines at Quantico and the transfer of fuel was simulated. The in-flight refueling system will extend the present operating range of current Marine Corps helicopters.—News release.

New and Speediest Fighter

The *F-104A Starfighter*, the Air Force's ultrasonic day-and-night fighter, is powered by the world's most powerful jet engine, the *J-79*. While the true top speed has not been disclosed, it is said that its speed in either climb or level flight is in excess of 1,700 miles an hour.

The *F-104A* weighs less than any operational jet fighter and is designed to combine efficient operation at both subsonic

Air Force's *F-104A* fastest combat plane.

and supersonic speeds. Its tiny razor blade wings, only 7½ feet from fuselage to tip, are so sharp that a felt covering is used to protect the crewmen when the plane is not flying. The wings' 10-degree "droop" is designed to enhance precision control of the high tail. The T-shaped tail's horizontal stabilizer has no elevator and moves as an entire unit. The *F-104A* is built to operate in the upper stratosphere and is the first combat fighter to be equipped with a downward ejection system. Other unusual features of this plane include main landing gear built into the fuselage rather than the wing, jettisonable tiptanks which fit over the wingtip like a glove, a landing drag parachute, and landing and takeoff flaps on the leading edge of the wing. The plane is 13 feet 6 inches high, 54 feet 9 inches long, and has a wingtip to wingtip span of 21 feet 11 inches. A 2-seat version of this plane, the *F-104B*, is now under construction.—News release.

'Matador TM-61B'

The Air Force's improved *Matador TM-61B* tactical missile, longer and with a larger nose section than the present model, was successfully test fired recently. About the same size and weight as a jet fighter, it is launched by rocket and is credited with "fantastic accuracy in hitting targets." It operates at near sonic speeds and has a range of about 600 miles. The *Matador* is actually a small, fast airplane with a guidance system instead of a pilot and is turbojet powered. It can be used in day or night operations, in all weather, and can be operated from dispersed positions if necessary.—News release.

CANADA

Cold Weather Fire Fighting

The "Deluge Gun"—a device designed for use in fighting fires in extreme cold—was recently successfully tested at Fort Churchill according to Army engineers. It is a small tripod-mounted fire extinguisher which sprays a high-pressure stream of white foam and smothers a roaring fuel fire in a few minutes. Standard fire-fighting equipment will not function in extreme arctic temperatures where hoses crack, liquid foam freezes, and controls often cannot be operated by men wearing heavy gloves.—News release.

YUGOSLAVIA

Cut Arms Spending

The Yugoslav Government has announced that approximately 70 percent of its 708 million-dollar budget for 1956 will

be earmarked for defense. This is a cut of 58 million dollars from its defense expenditure of last year.—News release.

PHILIPPINES

Nuclear Research Center

The nuclear research center for Asia will be located in the Philippines according to a recent announcement by the International Cooperation Administration. Japan, Thailand, and Ceylon were also considered as potential sites.—News release.

USSR

'TU-104'

The *TU-104*, a civilian transport version of the Soviet medium bomber, the *Badger*, is being produced in quantity according to official Soviet press reports. This plane was first brought to the attention of the Western World when it was flown to London recently. The *TU-104* is reported to have a cruising speed of 500 miles an hour, a cruising altitude of 32,000 feet, and has been flown nonstop for a distance of 1,900 miles. The 2-motor, swept-back wing plane is all metal, it was stated, and all material and equipment to include navigation instruments came from sources within the Soviet Union. The plane is capable of carrying 50 passengers and is furnished with adjustable seats.—News release.

Navy Shakeup

Recent information indicates that the longtime head of the Soviet Navy, who was responsible for building up its hitting force with new cruisers and submarines, has been removed from office and four leading Soviet admirals dropped from membership in the central committee of the Communist Party. Further indications that the navy is now subordinate to the army can be found in the fact that the top Soviet naval officer is now officially outranked by eight army marshals, whereas a year ago he was outranked by but four. There has always been a conflict in the Soviet Union between those who think the navy activities should be restricted to coastal defense and the proponents of a big navy. In general, army leaders are not sympathetic toward a big navy since this means diversion of funds and manpower away from the army.—News release.

WEST GERMANY

Order Planes

A West German airline has ordered 7 to 9 British *Viscount 810* passenger planes for use in establishing airlinks in Europe, the Near East, and Middle East in addition to routes it already flies. The first of the 4-engine *Viscounts* will be delivered in 1958 and the remainder in 1959. —News release.

Air Force Plans

A complete tactical fighting force by 1960, consisting mainly of jet fighters and reconnaissance aircraft, is included in the plans for the new West German Air Force. The first flying units are to be ready by spring 1957 and will probably be equipped with United States planes. Eventually the air force will consist of 20 squadrons, with a total of about 1,500 aircraft and 80,000 men, including the ground staff. About 75 former Luftwaffe officers are being trained by the United States Air Force and a few by the British Royal Air Force. These men will become instructors. Several selected officers are being trained in the United States and Great Britain for higher jobs. They will be made familiar with the problems of strategic air force and missile warfare. Under present plans the first planes will be *F-86D Thunderjets*. The organization of the air force roughly will be: 8 squadrons of fighter-bombers; 4 squadrons of day fighter-interceptors; 3 squadrons of all-weather night fighters; 3 tactical re-

connaissance squadrons; 2 transport squadrons; and an assortment of liaison and artillery observation aircraft. The air force will have no ground-based antiaircraft units of its own but these will be incorporated into the army as a result of German experience in World War II. It will, however, provide two highly mobile radar regiments to take part in the radar warning system being built up by NATO. Most of the airfields to be used will be those handed back by the United States and Great Britain.—News release.

SIKKIM

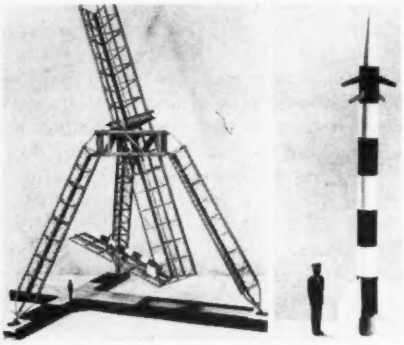
First Airfield Opens

A recent ceremony at Gantok, the capital city, marked the opening of the first airfield in this tiny independent Himalayan state.—News release.

GREAT BRITAIN

Test Rocket

A high altitude rocket and launcher designed to meet the needs of the Royal Society, Great Britain's leading society for the promotion of science, has been developed by the Ministry of Supply's Royal Aircraft Establishment. The rocket is to be used in the society's program of upper atmosphere research. It is 25 feet long and 17 inches in diameter. The missile will be propelled by solid fuel and will carry research instruments in the nose cone and part of the body. It is designed to go to heights of over 100 miles. The tilting tower is 81 feet high and weighs over 35 tons.—News release.



Upper atmosphere research aided by rocket.

Added Safety

For added safety, feathering propellers have been fitted to a version of the *Heron 2*. With these, if an engine fails in flight the propeller blades turn so that the air hits the edge instead of the flat of the blade, thus offering less resistance and putting less of a strain on the plane. The plane is powered by four *Gipsy Queen Mk 2* engines and cruises at 183 miles an hour.—News release.

***Heron* safety increased by new propellers.**

Plan Bomb Test

Great Britain's first hydrogen bomb will be dropped next year from a jet bomber over the Central Pacific Ocean near Christmas Island according to a London newspaper report. The date of the test has not been announced as yet. Christmas Island is part of Great Britain's Gilbert and Ellice Islands colony, about half way between Australia and the coast of Mexico. The Gilberts lie just south of the Marshall Islands, a center of United States nuclear weapons tests. It was reported that the bomb will be set off 3 to 4 miles in the air to reduce the risk of contaminating the islands and shipping with

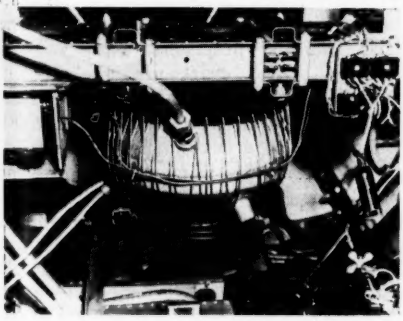
radioactive dust. The report said that it may be the first hydrogen bomb carried aloft by a plane. The operation will involve a huge task force of ships and planes. The test is described as a bold gamble on a revolutionary idea in hydrogen bomb design.—News release.

Nuclear Outlay

The British Government announced recently that it will spend approximately 191 million dollars on its atomic energy program during the current fiscal year. This is 26 percent more than was expended in the fiscal year which ended on 31 March 1956.—News release.

Liquid Oxygen

In studying the problem of air supply in supersonic flight, the Ministry of Supply is testing a new breathing apparatus



Liquid oxygen used in supersonic flight.

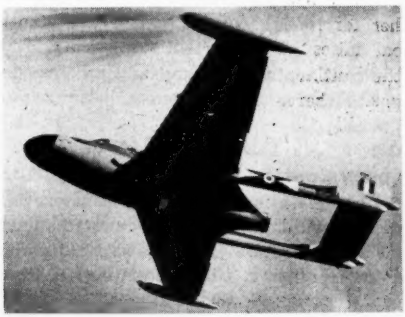
for pilots in which the oxygen is stored as a liquid in a liquid oxygen converter instead of as a gas in conventional storage cylinders. This system results in a great saving of weight and space as liquid oxygen provides over 800 times its own volume as a gas.—News release.

High-Speed Plane

The British Government has contracted for the development of a new 1,500-mile-an-hour jet bomber and expects it will see service in the early 1960's. The new bomber will have a wingspread of approximately 100 feet and will be about the same length. It will have a speed about 2½ times that of the *Newavro Vulcan* delta-wing bomber which is being delivered to the Royal Air Force this summer. Fuel will comprise about 60 percent of the weight of the new bomber, and its combat range is expected to be about 5,000 miles.—News release.

Night Fighter

Although its performance details are not available, the *Venom NF 3* is designed primarily as a defensive night fighter and



Night fighter ready for Royal Air Force.

for when weather rules out day fighters. It carries more radar equipment and has a longer nose than the *NF 2* which it replaces. The plane is powered by a *Ghost* jet engine.—News release.

INDIA

Order Arms

A multimillion-dollar order for British jet bombers, tanks, and other weapons has been placed by the Indian Government. It was reported that Great Britain probably will supply up to about 40 *Canberra* jet bombers to replace a fleet of obsolete United States World War II *Liberators*. About the same number of *Centurion* tanks as well as other items of equipment are a topic of negotiations. The armed forces of India in the past have been

equipped mainly with British weapons and a changeover to the calibers, standards, and designs of another country would have lowered the country's level of military efficiency at least temporarily. India's annual defense budget runs about 420 million dollars. The country is presently launching a program of military modernization. India is reported to have made inquiries in the Soviet Union concerning the purchase of military and civil aircraft. —News release.

Extends Sea Limits

India has announced the extension of her territorial waters from 3 to 6 nautical miles and asserted sovereignty over the continental shelf and any mineral deposits there.—News release.

GUATEMALA

Powerplant

Guatemala is planning the construction of a 20 million-dollar hydroelectric plant on the Marinala River, about 30 miles from Guatemala City, according to a recent report.—News release.

EAST GERMANY

Target Practice

In Eastern Germany, rifle marksmanship has been declared a national sport replacing soccer. Every able-bodied man and woman is being pressured to turn out for target practice. Reports indicate that legislation has been drafted making marksmanship compulsory for all East Germans between the ages of 12 and 60.—News release.

Army Confirmed

It has been officially announced for the first time that the formation of an East German Army is under way. It was reported that the "National People's Army" would be restricted in size and that its only job would be defensive. The arms and equipment of the new army will be modern. The highest rank in the army at the present time is a 3-star general.—News release.

FRANCE

French Divisions to Algeria

France's two crack armored divisions, the 5th and the 7th, stationed in West Germany, have been ordered to Algeria. —News release.

Transport Plane

The development of an airplane that makes very short takeoff runs from any unprepared field, even in obstructed areas, has been announced in France. The *940 Integral* meets the requirements for a civil or military plane for passenger or freight transport. Its design is based on the blown-wing principle, with the entire wing being placed in the slipstream of the propellers, and its outstanding characteristic is a very high-speed ratio. The large diameter propellers of the conventionally piloted craft are mechanically connected, thus permitting symmetrical flight even in the case of engine failure. The plane has a maximum cruising speed of 240 miles an hour and a minimum speed of 28 miles an hour. It requires only 200 feet for a takeoff and 120 feet for a landing. The *Integral* is 40 feet long and has a wingspan of 58 feet 4 inches. It can accommodate 21 passengers.—News release.

Independence Granted

An agreement has been signed in Paris between the French and Tunisian Governments recognizing the independence of Tunisia and defining the basis for the negotiations designed to organize cooperation between the two countries in the domains in which they have common interests, particularly in matters of defense and foreign relations. The new agreement provides for the establishment of a Tunisian national army and offers French assistance in organizing the army.—News release.

FOREIGN MILITARY DIGESTS

Allied Naval and Air Commands in the Mediterranean

Digested by the MILITARY REVIEW from an article by Admiral The Earl Mountbatten of Burma in "The Journal of the Royal United Service Institution" (Great Britain) May 1955.

BEFORE discussing the actual structure of the Mediterranean Command, I would like to remind you of the steps which led to its formation.

Sir Winston Churchill's great speech at Fulton on 5 March 1946 first directed attention to the desirability of mutual aid between the United States and the Commonwealth.

The first concerted political and military measure to be taken by the Western Nations, however, was the Dunkirk Treaty of Alliance and Mutual Assistance which Great Britain and France signed in March 1947; and this was followed in June 1947 by the introduction of the Marshall Plan for the postwar recovery and reconstruction of Europe. The importance of this plan lay not only in its tremendous generosity, but in the fact that it was aimed at reviving economic collaboration among the European nations themselves, for their own mutual advantage.

The next stage was the signing, by the nations of the Americas, of the Rio de Janeiro Treaty of Mutual Self-Defense in September of the same year. This treaty had no direct effect, of course, on political or military organization this side of the Atlantic; but its importance to us lay in the fact that it was the first regional grouping of states since the setting up of the United Nations, and that it provided the germ of the idea which was to lead to the Brussels Treaty and the North Atlantic Treaty.

The Brussels Treaty—a treaty of economic, social, and cultural collaboration and mutual defense—followed, in fact, shortly afterward, in March 1948, and was signed by Belgium, France, Luxembourg, the Netherlands, and the United Kingdom.

Up to this time the United States, although she had signed the Rio de Janeiro Treaty, had not yet taken part in any military pact in Europe. But 3 months after the signing of the Brussels Treaty, the United States Senate, by a vote of 64 to 4, passed the so-called "Vandenberg Resolution" which recommended the association of the United States "with such other regional and collective arrangements as are based on continuous and effective self-help and mutual aid." This statement of United States policy directly paved the

way for the North Atlantic Treaty, and for the organization (NATO) which it set up. The treaty was signed in Washington on 4 April 1949 by Belgium, Canada, Denmark, France, Iceland, Italy, Luxembourg, the Netherlands, Norway, Portugal, the United Kingdom, and the United States. These countries were subsequently joined by Greece and Turkey.

Early Organization

It is the North Atlantic Treaty Organization, and the Allied Command set up in the Mediterranean, under NATO, which I will discuss. When the task for drawing up defense plans for the North Atlantic area was first considered in 1949, no military command structure was envisaged. There was to be a Military Committee of all member nations, under which a Standing Group of permanent representatives from France, the United Kingdom, and the United States would exercise control over five Regional Planning Groups and deal with the area covered by the treaty. It was soon apparent, however, that an Allied military command structure would be necessary, and in December 1950 General Eisenhower was nominated to the post of Supreme Allied Commander Europe, a military command coming directly under the Standing Group. (Later, two other Supreme Commands, the Atlantic Command and the Channel Command, were set up.)

The Supreme Allied Commander Europe (SACEUR) set up three major subordinate commands: the Northern Command at Oslo; the Central Command at Fontainebleau; and the Southern Command at Naples. The Southern Command was given to an admiral of the United States Navy and he organized three subordinate commands: Land Forces, Southern Europe; Air Forces, Southern Europe; and Naval Forces, Southern Europe. The admiral himself took command of his own subordinate naval command, and as he was then also the Commander in Chief of United States Naval Forces in the Eastern Atlantic and Mediterranean (CINCNELM), he may be said to have set the fashion for senior NATO commanders to wear more than one hat.

The Southern Europe Naval Command, known at NAVSOUTH, included forces from the French, Italian, and United States Navies (including the United States Sixth Fleet). But it did not include the British Mediterranean Fleet, and the reason for this was both strategic and political. To NAVSOUTH, which was concerned with the martime supply of France and Italy, and the naval air support of these areas by aircraft from the Sixth Fleet, the Mediterranean provided a convenient sea route to the coasts of southern Europe; but for the British, on the contrary, the Mediterranean, besides being a probable battleground in war, was the vital highway to the Middle East. The very considerable army and air forces which the British kept in the Middle East were not included in NATO, for the area itself lay outside NATO's orbit—and indeed remains outside it to this day. Therefore, since the protection of sea communications to the Middle East was of primary importance to the British, the British Mediterranean Fleet remained outside of NATO.

A certain amount of liaison and combined planning took place between COMNAVSOUTH and the British naval authorities but the situation remained rather untidy until February 1952, when Greece and Turkey joined NATO. This brought matters to a head, for the Commander in Chief South's planning responsibilities covered the land and air forces of these two countries, but not their navies. It was clear that the entire question of the naval command of the Mediterranean must be resolved, but this, in fact, took nearly a year to accomplish. In December 1952, however, the creation of an Allied

Mediterranean Command, under the Commander in Chief of the British Mediterranean Fleet, was finally approved. This not only brought the British, Greeks, and Turks under one Allied naval command with the remainder, but it ensured that the considerable British forces in the Mediterranean would be available to play their part in the over-all Allied tasks, in addition to securing the sea communications of the Suez Canal.

On the foundation of Allied Forces Mediterranean Command (AFMED), the Command of COMNAVSOUTH was abolished on 15 March 1953. It was succeeded by the Allied Command of the Naval Striking and Support Forces Southern Europe (STRIKFORSOUTH) under the Commander in Chief South. STRIKFORSOUTH has up to the present time consisted solely of ships of the United States Sixth Fleet, and is charged only with the task of supporting the land/air battle in southern Europe. It has two main components: the amphibious force, capable of landing United States Marines against opposition to support a land battle; and the carrier task force, capable of delivering atom bombs in support of the air offensive. The carrier task force, used in this mobile and flexible way, is an extension of the land-based strategic air force —it will be able to outflank the enemy's front and get closer to him. It is no part of the duties of the Striking Force to support the war at sea; and that is why it does not come under the Allied Naval Commander in Chief—although the latter is charged with the responsibility for coordinating the movements of the Striking Force with those of his own forces.

AFMED, the main Allied Command in the Mediterranean, was then set up at Malta, with myself as Commander in Chief. It consisted of forces from six nations—France, Italy, Greece, Turkey, the United Kingdom, and the United States. It constituted a major subordinate command of the Supreme Allied Command in Europe—by virtue of which it ranked as an equal partner with the Southern, Central, and Northern European Commands. My principal tasks were the security of sea communications in the command, and the support of adjacent commands.

It might have been supposed that the Allied Commander in Chief of the Mediterranean would have under him all the naval and maritime air forces of the Allies concerned throughout the Mediterranean. On going into the matter, however, I found that this was far from being the case.

Restrictions

Under the NATO military organization, it seemed that I was restricted not only as to the actual forces which were to come under my command, but also as to the areas in which I could command them. In point of fact, only those ships and air forces specifically assigned to NATO by the respective nations would come under my command in war, or for large-scale, peacetime exercises—and then only on the high seas. The remaining forces were to remain under their national commanders, and coastal waters would also remain under national control—but not necessarily always under those same commanders who commanded the seagoing national forces.

The climax was reached when I discovered that even the extent of the coastal waters themselves had been left undefined and that some countries wished to include all areas covered by coastal radar sets—which in some cases meant that claims were made for as much as 30 miles from the shore. A glance at Figure 1 will show that, if such interpretations were to be seriously accepted, the area of sea which would be left to the Allied Command would make adequate Allied control, or even planning, impossible.

I, therefore, firmly stated from the outset that I would not accept a limit greater than the internationally accepted 3-mile

territorial limit—although even this would leave all the vital approaches to harbors, and the mine-clearance of swept channels, as purely national responsibilities.

It is true that the unassigned forces which countries retained under national command were theoretically intended for coastal operations, but in the case of the smaller navies this meant in effect that the greater part of their fleet was retained, whether actually operating inside territorial waters or not. Unless I could find some way around these crippling restrictions, I could see little prospect of ensuring the security of sea communications throughout the Mediterranean—which is as far across as the Atlantic between Canada and England.

As if these headaches were not enough, I found I had inherited a further complication from the Southern Commander's naval organization, namely, two large national areas, known respectively as the French Zone and the Italian Zone, whose boundaries were still under dispute—and I was directed to leave these under their national commanders. I was authorized to divide my command into further areas, but was alarmed at the prospect of a Mediterranean chopped up into a number of comparatively small zones.

Suddenly a solution presented itself. I decided to divide the Mediterranean into areas and each of these areas would be under an admiral of that nation which had the greatest length of coastline within the area. But none of these would be national areas—they should be Allied areas, and be christened with geographical names. Thus, the French Zone became the Western Mediterranean area. As French is the alternative official NATO language this became known as *Mediterranée Occidentale*, and the short title of the Allied Commander, COMEDOC. Fortunately, the commander of this zone, whose headquarters are at Algiers, had already under his command all French naval and maritime air forces, and all bases and coastal waters in the south of France, Corsica, and French North Africa.

All that was now needed was for me to offer him the Allied Command under me of the Western Mediterranean area—on condition that he was allowed by his government to retain command of the French forces and coastal waters which were not under me. This was agreed to and this admiral now had complete control of all Allied and national naval and air forces, on the high seas and in coastal waters, within the Western Mediterranean area. There was still one difficulty in the way of my making over-all plans, which was that in theory he only owed allegiance to me for assigned forces on the high seas. I will explain in a moment how this particular snag was overcome.

Italian Zone

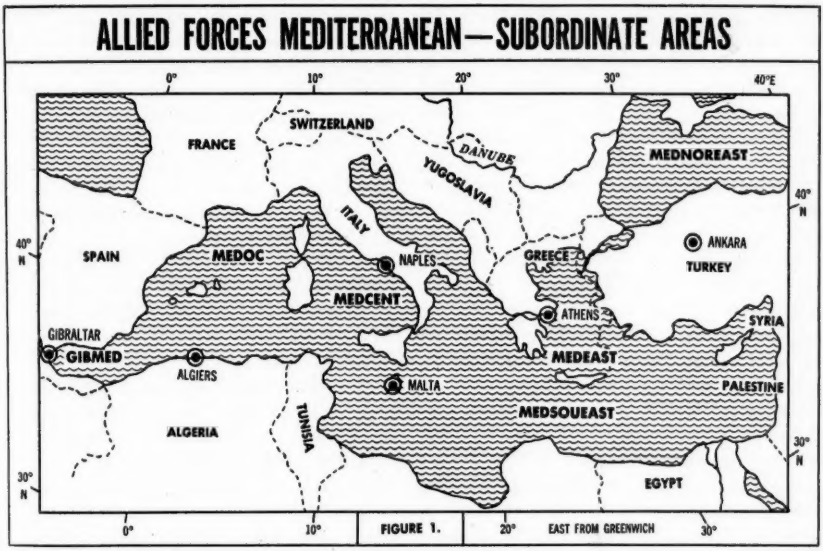
The Italian Zone was also rechristened. It become the Central Mediterranean area, and included all the waters around Italy, Sardinia, and Sicily. Here the difficulty was to find an Italian admiral who had all the unassigned Italian ships, coastal waters, and naval bases under his command. Such a comprehensive command did not exist but at my request an Italian admiral was given the necessary powers, and became National and Allied Commander of the Central Mediterranean area at Naples under the title COMEDCENT.

The Aegean and Eastern Ionian Seas were formed into the Eastern Mediterranean area. Here again there was difficulty in finding an appropriate Greek admiral, for the commander of the seagoing fleet had no shore headquarters, and no responsibility for naval bases. Finally, I invited the Chief of the Greek Naval Staff to become my Allied area commander and he kindly consented, with the concurrence of his government, operating under the title COMEDEAST, from the Ministry of Marine in Athens.

The Black Sea, the Sea of Marmora, and

the Eastern Aegean were formed into another area, under a Turkish admiral. The Commander in Chief of the Turkish Navy and at the same time the Chief of their Naval Staff, at once offered to become the Allied area commander—which he did under the title COMEDNOREAST, with his headquarters in the Ministry of Marine at Ankara. The Supreme Allied Commander, then General Ridgway, laid down that this area should not be called the "Black Sea area," as he considered that this would be an uncalled for provocation to the Soviets. Therefore, we called it the Northeastern Mediterranean area which no doubt confused the Soviets as much as it did us.

This left the Southeastern Mediterranean, from Malta to Cyprus (including the Libyan and Egyptian coasts, and the Levant) unallocated. Since this constituted the main highway to the British Middle East Command, I placed it under the Commander in Chief of the British Mediterranean Fleet. But I realized that I could not very well represent the interests of one particular area or nation, and at the same time take the chair at meetings with all the area commanders, so I turned over responsibility for COMEDSOUEAST to the Second in Command of the British Fleet. This step made it advisable for his staff and mine to be integrated, so our officers were located in the same building at Lascaris, about a quarter of a mile from the Allied Headquarters at Floriana. In the course of this integration several staff posts became redundant, and this enabled me to take outstandingly efficient and experienced staff officers with me when I set up the Headquarters of the Allied Forces Mediterranean (HAFMED).



There was now only one small part of the Mediterranean still to be dealt with, the small area to the east of Gibraltar. The British Naval Commander at Gibraltar (COMGIB) was already responsible to the Supreme Allied Commander Atlantic for the subarea extending from Gibraltar into the Atlantic. He was now given a similar responsibility for the sub-

area between Gibraltar and the Western Mediterranean area. As a result of this COMGIB now uses the title COMGIBMED when dealing with the Mediterranean subarea of Gibraltar.

Since the United States has no territorial possessions in the Mediterranean, no area was put under an American commander. Although, as I have already said, the Striking Force formed by the United States Sixth Fleet was not under the Commander in Chief, Allied Forces Mediterranean (CINCAFMED), adequate American naval forces were assigned to the command to help in the war at sea, including maritime air patrol squadrons, submarines, hunter-killer groups, and minesweepers. American national interests are taken care of by the Commander in Chief, United States Naval Forces, Eastern Atlantic and Mediterranean (CINCNELM). The representative of CINCNELM at HAFMED is Vice Admiral Fife, who is also Deputy CINCAFMED.

When this stage had been reached, the entire Mediterranean had been zoned under area commanders who commanded all naval and maritime air forces, whether assigned to NATO or retained under national commands, and whether on the high seas or in coastal waters.

Each area commander would have in his own headquarters a small inter-Allied staff, in addition to his own national staff. Each of these would comprise one American officer and at least one officer from each of the adjacent areas; the latter would in every case be of the same nationality as the area commander he represents. (In Malta, of course, this was painlessly achieved by COMERSOUEAST borrowing officers of the appropriate nationality from HAFMED, which is just down the road.) This injection of the Allied element into the respective area commanders' national headquarters would have the double advantage of enabling the hitherto purely national commander to exercise his Allied functions, while coordinating his Allied and national interests.

Allied Headquarters

All that now remained was to devise a structure for the Allied Headquarters which would take account of the national aspects of over-all planning (see Figure 2). For whereas in the areas the headquarters were essentially national, with the Allied interests injected, at HAFMED, which was by definition the over-all Allied Headquarters, it was the national interests which had to be worked in. Fortunately, I was able to draw on experience gained in Southeast Asia during the war, when it had been necessary to set up rather similar planning machinery. I invited all the area commanders to consider themselves members of my Allied Headquarters in Malta—at all events in theory. In practice, since they could not leave their own headquarters, I asked each of them to nominate a rear admiral to represent them permanently at HAFMED. Each of these representatives was allocated a big room with a conference table in the Allied Headquarters building.

This was readily agreed to and each nation and area now had its own high-level permanent representative at Malta, with a small staff drawn from his own nationals—some half-dozen officers in the case of the smaller navies, and a dozen or more from the larger ones. It was, therefore, only necessary for the area commanders themselves to attend meetings in Malta three or four times a year.

The inter-Allied staff has been organized in six divisions, each division being put under a rear admiral (or appropriate senior officer) of one of the six nations represented. *Plans* are under a French officer; *operations* under an Italian; *organization*, Turkish; *logistics*, Greek; *intelligence*, American; and *communications*, British. The staff of each division includes at least one officer of each nation—or perhaps I should say half an officer,

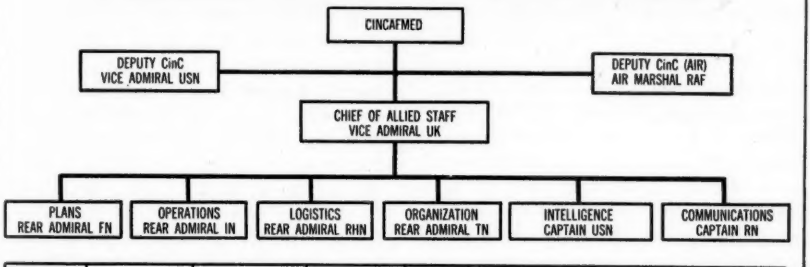
since the smaller navies provide few officers, and in some cases one has to divide his time between two divisions. The main point, however, is that no division is without a representative from every nation, so it would be impossible for even the simplest plan to be started without each nation being fully aware, from its very inception, of what is under consideration.

In HAFMED, officers of any nation are encouraged to meet openly in the room of their national admiral, and to discuss freely in their own language the interests of their own nation and area so that purely national responsibilities can be taken care of within the Allied Headquarters. I obtained special permission from the Supreme Allied Commander to incorporate this unorthodox feature in the setting up of my headquarters. As a result of this, young officers from each division are able, at their national meetings, to keep their senior national representative informed of what is in the wind and this ensures that national points of view can be ventilated in the earliest stages.

Two psychological advantages accrue from this arrangement. First, it is far healthier that information affecting national interests should be acquired in the normal course of business than by devious means which would have to be used by liaison officers or military representatives.

Second, it makes for good will as well as for efficiency that the same officer, whose duty it was to report the difficulty to his senior national representative, should be in a position to induce the other members of his own division to amend the paper in question—rather than that the matter should have to go forward as a complaint to a higher level. The practical advantages are also plain. The redundancy of military representatives and liaison officers allows smaller staffs, while continuous reference back to higher national authorities for agreement is obviated. So the production of acceptable plans is speeded up.

HEADQUARTERS ORGANIZATION ALLIED FORCES MEDITERRANEAN


CINCAFMED
DEPUTY CinC VICE ADMIRAL USN
DEPUTY CinC (AIR) AIR MARSHAL RAF
CHIEF OF ALLIED STAFF VICE ADMIRAL UK
PLANS REAR ADMIRAL FN
OPERATIONS REAR ADMIRAL IN
LOGISTICS REAR ADMIRAL RHN
ORGANIZATION REAR ADMIRAL TN
INTELLIGENCE CAPTAIN USN
COMMUNICATIONS CAPTAIN RN

NATIONALITY	PLANS DIV	OPERATIONS DIV	LOGISTICS DIV	ORGANIZATION DIV	INTELLIGENCE DIV	COMMUNICATIONS DIV	TOTAL
FRENCH	◈●●	○◖◐	●	◗	●◗	●	9
GREEK	◖◐	◗	◈●●	◗	◖	◗	6
ITALIAN	●◉	◈●●●○	●	●	●	●	11
TURKISH	◖	◉◗	◖	◈◗◖	◗	●	6
UK	●●●●○◉	●●●◉◉◉	●●●●●	●●	●◉	◈●●●◉	26
US	●○○	●◐◐	●◑	●	◈●◗	●	11

◈ INDICATES CHIEF OF DIVISION ● INDICATES ONE OFFICER ○ INDICATES ONE NAVAL AIR OFFICER ◉ INDICATES AIR FORCE OFFICER

◖◗○◐◑ INDICATES OFFICER SHARED BY TWO DIVISIONS

FIGURE 2.

Air Force Organization

Having catered for possible divergencies among national interests, it now only remained to see to it that land-based as well as carrier-borne aviators also should be able to take care of the air point of view in a predominantly naval headquarters. In HAFMED there is at least one "light blue" air force officer from each of the six nations concerned, as well as "dark blue" aviators from the United States, French, and Royal Navies. There is at least one of these officers in every staff division—so that the air point of view is fully integrated. The Air Officer Commanding Malta is Deputy CINCAFMED (Air), and holds his own air meetings, attended by airmen from every division, to ensure that air interests are adequately taken care of.

The organization of the maritime air forces in the command has proved to be rather uphill work. To begin with, the Greeks and the Turks have no maritime air forces, but are examining the question of naval/air cooperation by any of their air force squadrons which might be available. Next, the Italians have been given *Harpoons* by the United States Navy, which has also trained Italian naval officers to pilot them, but the question whether they shall come under the Italian Air Force or Navy is still, so far as I know, under discussion. The United States and French Navies own their own maritime air squadrons, which remain under purely naval command. Finally, British aircraft not embarked in aircraft carriers belong to the Royal Air Force, and command of ships and aircraft is exercised jointly by the flag and air officers concerned from a maritime headquarters. In Malta the Air Officer Commanding acts jointly with COMEDSOUEAST in the command of the Southeastern Mediterranean area, while the air force commander acts with COMGIBMED in the Gibraltar subarea.

In comparison with some of the difficulties I have just mentioned, through naval and maritime air forces not being under unified command, it might seem that the American and French system, of the navies owning their own shore-based maritime air forces, would provide an island of simplicity in a sea of complications. But their refusal (which in the case of the United States was particularly emphatic) to place their aircraft under any but a purely naval command has in fact made the situation more difficult.

Future Planning

A solution acceptable to all is difficult, but when I left Malta in December 1954 we were thinking along the following lines: the French and Italian maritime air forces would work under their own area commanders, although the exact command relationship would ultimately depend on the final decision as to whether the Italians would belong to their navy or to their air force. The British would continue to work under their own Air Officer Commanding at Malta and Gibraltar. The Americans would come under a functional naval air commander, known as COMUSPATMED, directly subordinate to CINCAFMED. They would operate, as required, to support any area and would be prepared to send a liaison officer or delegated commander to the relevant area headquarters while operating there.

The submarine organization has presented no difficulties, for of course only naval authorities are involved. The Commander of Submarines in the British Mediterranean Fleet would command all Allied submarine operations in war, from Malta, under the title of COMSUBMED, with a small Allied staff. Allied submarines operating in the Northeastern Mediterranean area would come under a separate Allied submarine commander directly under COMEDNOREAST.

I have dealt in some detail on the organization of the Allied Command in the

Mediterranean since its structure is such an unusual one. I now want to talk about the relationship of AFMED to its neighboring commands.

To begin with, it is clear that such a command can only work efficiently if it has the closest links with the Allied land/air Command of Southern Europe. A United States admiral is now Commander in Chief South (CINCSOUTH), with his headquarters at Naples. He has two of his subordinate headquarters at Naples—STRIKFORSOUTH (the Deputy Commander of the United States Sixth Fleet), and AIRSOUTH (his functional Air subordinate commander), who is responsible for air operations in Southern Europe. In addition to this, he has two subordinate army commands: LANDSOUTH, at Verona; and LANDSOUTHEAST at Smyrna (or Izmir, as it has been renamed).

Fortunately, Naples and Malta are connected by a fast and frequent air service, as well as by a specially installed telephone link, so staff coordination at all levels is easy. To ensure that there shall be continuous liaison between the two commands, CINCAFMED keeps a liaison officer (a captain, Royal Navy) based on Naples, but spending a few days every fortnight in Malta. Relations between the two headquarters could not be happier.

In my dual role as British Commander in Chief Mediterranean and Commander in Chief the Allied Forces Mediterranean, I took care to keep my two jobs physically separate—dealing, in fact, with my British duties when in the British Headquarters at Lascaris, and with my Allied duties when in the Allied Headquarters at Floriana. I found that, apart from being theoretically subordinate to my Allied self, my British responsibilities were unchanged. In peacetime our British problems in the Mediterranean, such as the Canal Zone, are not affected by our Allied commitments; in making war plans also, the problems have not basically changed. The management of ports, operations in coastal waters, and the logistic support of British forces operating in the Mediterranean remain national responsibilities, but the creation of HAFMED has enabled our planners to know the capabilities and the intentions of their Allies, and to fit in their plans with Allied requirements.

So far as British plans are concerned, support of the Middle East Command still looms large for this is an entirely national commitment. Until my appointment as CINCAFMED, the Middle East was a 3-service command, managed by the British Defense Coordination Committee, of which, as Commander in Chief Mediterranean, I was the naval member. But when I assumed Allied status and responsibilities, it was undesirable that I should remain as a third partner in a non-NATO command, since it might have been an embarrassment to my Middle East colleagues that I should also be a NATO Commander—and my NATO colleagues might equally have feared that I was in some way involving them in matters in which they did not wish to be concerned.

Consequently, the composition and limits of the British Defense Coordination Committee were revised. Its area of responsibility was reduced and the strategic responsibility for Malta was turned over to me in my British hat when I relinquished my membership.

The naval point of view is now represented in this land/air command by the Flag Officer, Middle East, who acts as a link between this command and the neighboring naval Commanders in Chief.

Standard of Preparedness

I would like to give you some account of how we have been raising the standard of preparedness in the command which is achieved, principally, by combined training of all the Allied forces in large-scale and small-scale exercises. The differing initial standards and methods in use in

the various national forces presented a difficulty which it is still taking time to overcome. If unlimited funds were available, so that ships could be sent to sea, and aircraft sent into the air whenever and for as long as one wished to do so, the standard of efficiency would improve at an even greater rate. But we are unfortunately in the financial position of having to cut our exercises below what we would all like. Consequently, the comparatively small number of "live" Allied exercises that we are able to lay on have to be most carefully planned so that they may yield the maximum value.

We have learned to avoid the pitfall of laying on large "shopwindow" exercises that look splendid when reported in the world press, but do little to advance training. In such exercises there is a tendency to produce voluminous detailed orders in which every situation is preplanned so that the captains and senior officers do not have to make any difficult decisions. The result is that, although no mistakes may be made, no lessons are learned.

We started like this. Our first two exercises, *Weldfast* (in conjunction with Commander in Chief South, in the autumn of 1953) and *Medflexable* (in the spring of 1954) were largely of this type. But we soon progressed and our next exercise was run without actual ships or aircraft—a "paper" exercise, *Medshipable*, to test our shore headquarters and their communications, as well as our naval control of shipping organization. In this exercise the commanders were made to think for themselves and act accordingly by means of incidents being injected on the sealed envelope system.

This led on to our next exercise, *Medflexbaker*, in which actual ships and aircraft took part, but with no situations preplanned. Two of our area commanders were invited to fight a third, and both sides started a 5-day mock war with no knowledge of the opposing dispositions. Mistakes were made, but also some good decisions.

Immediately after this exercise the first NATO naval review was held in which 52 ships and 52 aircraft, drawn from the six nations of the command, steamed and flew past the North Atlantic Council who were embarked on board HMS *Surprise*. The ships then entered Malta harbor, and a post mortem conference was held the following morning, attended by officers from all the ships that had taken part—so that the lessons learned could be thrashed out while the events were still fresh in their minds.

These major exercises are mainly of a strategical nature, but it is, of course, essential to carry out tactical training also. This can be dealt with at sea, in bilateral exercises arranged between any two nations, to afford them training in specific functions such as minesweeping or antisubmarine tactics. It is not possible, however, for lack of money and opportunity to have as many of these small exercises as one could wish for. I was fortunate in obtaining Admiralty approval for the erection in Malta, as part of the British Joint Tactical School, of a remarkable training device known as the "Action Speed Tactical Teacher." This has provided the means of developing a common tactical doctrine in the command, and has enabled this doctrine to be taught rapidly and inexpensively to officers of each nation who come to Malta to do short courses. There are earlier models of this excellent teacher at Portsmouth and Portland, but the one in Malta is the most highly developed and proving extremely popular with our Allies.

Tactics are also investigated by study groups containing officers from each Allied navy. These groups meet regularly at different area headquarters and as a result a fund of agreed and up-to-date tactical doctrine is being created. When I left Malta we had groups studying antisub-

marine warfare, mine warfare, submarine warfare, and naval control of shipping.

I hope that my recital of all that has been going on in the Mediterranean will not have led you to suppose that there is a vast staff at HAFMED. Although I say it "as shouldn't," we have gone in for quality and not quantity and it is by far the smallest of any comparable NATO headquarters. I think, also, that we can truly claim that our Tower of Babel functions both efficiently and happily under the Chief of the Allied Staff.

Conclusion

I seem to have left until the end the strategic considerations and war plans for the Mediterranean, which everything I have been describing so far has really been designed to deal with. As I mentioned at the beginning, although I am sure I hardly need to tell you, the principal task of AFMED will be to keep open the sea lines of communication throughout the Mediterranean.

So far as attacks by submarines or surface forces are concerned, the best way of dealing with this is obviously to prevent them from even reaching the convoy routes. In the Mediterranean we are fortunate in having only two narrow entrances through which submarines or surface forces must come—the Bosphorus and Dardanelles in the east and the Straits of Gibraltar in the west. No enemy can come in by the eastern entrance so long as Allied forces hold both sides of the Straits and entrance at Gibraltar can be denied to surface ships, although it would be more difficult to exclude submarines. However, it is a long haul that way, and we do not expect submarines to come this way in great numbers. In any case, plans have been made to deal with any that did make the attempt, and I hope their passage could be made so hazardous as to become unprofitable.

Therefore, since only a trickle would be able to get past Gibraltar, the key to the maritime control of the Mediterranean must be the control of the Turkish Straits. This key is in the safe keeping of Commander in Chief South and the Turkish national forces, supported by Greek national forces on the European side of the Straits. The United States Marines and aircraft of the United States Sixth Fleet, in their capacity of Commander in Chief South's Strike Forces, would also be available.

These forces are considerable but, of course, Turkey and Greece have few land communications and their armies and air forces must be largely supplied by sea. The safe arrival of supplies to this vital combat area is a responsibility of CINCAFMED, although in many cases a redistribution of these supplies by sea to the troops in the frontline is undertaken by the national naval commanders of Greece and Turkey in their coastal waters. This is an excellent example of the advantages of having Allied and national responsibilities shouldered by the same area commanders.

If the Turkish Straits were to fall into enemy hands, there would be little to prevent an entire enemy fleet from debouching into the Mediterranean. In the very serious situation that this would create, I have no doubt that CINCAFMED would turn to Commander in Chief South for help from his powerful Striking Force. Yet, even while the Turkish Straits are held, sea communications in the Mediterranean are wide open to air attack. Enemy aircraft operating from Black Sea bases could carry out fighter-escorted strikes over the entire Aegean, light bomber strikes over most of the Eastern Mediterranean basin, and heavy bomber attacks over all of the Mediterranean Sea.

They could attack our ships with rockets, bombs, and torpedoes, or they could mine our ports and shallow channels. The mining threat is a formidable one, although local air force all-weather fighters could afford some protection against this, as well

as against air attack on ships in the harbor.

There are difficulties in providing for the protection of convoys from air attack in the Mediterranean by shore-based fighters, so this will be provided by aircraft carriers.

However, I have no doubt that the Allied strategic air offensive against enemy airfields and bases, which would be largely carried out by the carriers of Commander in Chief South's Striking Force, will whittle down considerably the scale of air attack which we could otherwise expect. In fact, you must not think that, because I have dwelt on the defensive aspects of a possible war in the Mediterranean, the offensive aspects have been overlooked. But you will appreciate that for security reasons I cannot give you any details. I am sure that under my successor the command will go from strength to strength.

When I finally left the command, the six admirals from the six navies serving in HAFMED proved that they were practical seamen by kindly manning a 6-oared galley and pulling me off to my dispatch vessel. I could not help feeling that this was symbolic of the spirit of HAFMED, where six navies pull together in perfect stroke, and I wondered if it could by any chance be symbolic also of my past 2 years that I should be sitting back, steering, while others did all the hard work!

The Origin of the Von Manstein Plan

Translated and digested by the MILITARY REVIEW from an article by Jean Vanwelkenhuyzen in "L'Armee-La Nation" (Belgium) 1 May 1955.

HITLER'S dream had always been to crush his enemies one after the other by a series of blows delivered with lightning like rapidity. He first turned against Poland. The fate of this country was sealed in a few weeks and yet the Führer lived in a state of anxiety during this period. Poorly advised by Von Ribbentrop, he had imagined England and France would again content themselves with a verbal expression of their disapproval. They actually, however, declared war on him! The Master of the Third Reich had been completely taken aback by this turn of events and was faced with the specter of a war on two fronts. The breathtaking speed of his successes on the Eastern Front did not suffice to dispel the haunting vision of the Allies breaching the weak rampart which covered his western frontiers.

This was far from the case, however, but Hitler felt that he had had a narrow escape. Hence, once the Polish Campaign was finished, his greatest concern was to swing the weight of his forces toward the West.

On 10 October 1939 Army Group B was drawn up facing Holland, Belgium, and the Grand Duchy of Luxembourg. Colonel General Fedor von Bock was given command of it. He had just proved his abilities in Poland at the head of the Northern Army Group. His new mission, defined by a directive of 7 October, was defensive. The mission was to extend as far as the mouth of the Ems, the cover against France ensured by Army Group C under Colonel General Wilhelm von Leeb. The document stated: "resistance will begin at the frontier." The remainder of the document, however, reveals more bellicose intentions: "Army Group B is to be prepared, in conformity with a special order, for immediate invasion of the Dutch and

Belgian territories if the political situation requires it. The invasion order will be given by the Army High Command (OKH); meanwhile, all violation of the Dutch or Belgian territories must be scrupulously avoided."

The double nature of this text reflects the profound division of opinion existing at that time among the high German military authorities.

The OKH was unanimous in recommending a defensive attitude in the west. It hoped that the lightning like victory over Poland would have political repercussions and persuade the Western Powers to conclude a peace favorable to Germany. In short, Generals von Brauchitsch and Halder, as well as the majority of their associates, were apprehensive of a denouement in the west of a war so brilliantly begun in the east. Miracles happen only once, they said, and no comparison is possible between the battle against Poland and the one they would have to wage against France. Such a test of strength seemed to them all the more dangerous because the rearmament effort was far from completed. The political authorities themselves had fixed the date of completion for 1942. Serious deficiencies, moreover, had appeared during the recent campaign. This matter would have to be remedied before plunging into other adventures.

Divergent Views

Quite different were the views of the Führer. He had not even waited for the fall of Warsaw to express his intentions of starting offensive operations in the west as soon as possible. "Strike quickly and hard"—this was his motto. He intended to apply it against France and England also. He would not give them time to arm against him. The *Oberkommando der Wehrmacht* (OKW) shared his conviction that this was the only way to ensure the final triumph for Germany. Hitler had just crushed Poland. He would subdue his other adversaries in the same way. In any case, he did not worry himself by overestimating them, and he did not listen to any expressions of doubt concerning the worth of the young Wehrmacht—his Wehrmacht.

Hitler knew the attitude of his generals. The very day Von Bock moved into quarters at Bad Godesberg the Führer answered them in a lengthy speech in which he developed his arguments. Then, dismissing them without discussion, he settled the matter by sending them his "Directive Number 6 for the conduct of the war," which laid down the principle of the quick offensive. Its principal points were:

> Preparations will be made with the view to an offensive on the northern flank of the Western Front, across the territories of Luxembourg, Belgium, and Holland. This attack is to be launched as soon as possible with the largest forces possible.
>
> The object of this attack is to defeat as large a part as possible of the field army of France and of the allies fighting at her side and, at the same time, to seize possession in northern France, in Belgium, and Holland of as much terrain as possible in order to establish a satisfactory base there with the view to pursuing air-naval operations against England as well as ensure the greatest possible protection to the vital district of the Ruhr.

The offensive intention now being admitted, or rather imposed, it was now necessary to ensure the utmost flexibility in the organization of the forces massed in the west. Another army group, which should take charge of the center of the disposition, was necessary.

An army group staff which was chafing at the bit in Poland happened to be available just at that time. Still at the head of the Southern Army Group, Colonel General Gerd von Rundstedt was appointed Commander in Chief in the east on 30

October. This role as sentinel along the recent common frontier with the Soviet Union obviously did not require such a large command organization. It could be no more than a temporary situation. Officers of the OKW passing through Lodz did not hide from him the fact that he would soon be needed for the offensive in the west. In fact, on 17 October Von Rundstedt's Chief of Staff, Lieutenant General Erich von Manstein, received a call to proceed to the Headquarters of the Army General Staff. He was to go to Zossen, south of Berlin, to receive instructions for a new mission: an Army Group A, consisting of the personnel of the Southern Army Group, would function at Cologne beginning on 24 October.

General von Manstein knew that an offensive was being prepared. News of it had spread like flame along a powder train. However, he did not know the form the High Command intended to give it. It was not, therefore, without a feeling of keen curiosity that on 21 October he received "Deployment Directive Yellow" which traced the principal lines of the plan. (Figure 1.)

Attack Plan

After having explained his general intentions in terms very similar to those used by Hitler, Von Brauchitsch outlined the maneuver as follows:

"The attack will be conducted under my command by Army Detachment N and by Army Groups B and A with the first objective being to eliminate the combat forces of the Netherlands and to destroy the largest possible number of Belgian troops in the fortified zone of the frontier. By rapidly assembling powerful formations, especially motorized units, in northern and central Belgium, efforts will be made to establish the necessary conditions under which the attack will be pursued without interruption with a strong northern flank and to seize possession of the Belgian coast quickly. Army Detachment N and Army Groups A and B will assemble for this purpose east of the Reich frontier between Rheine and Mettlach, south of Trier, and to so camouflage themselves that they will be able, in six night marches, to occupy the jumpoff positions for the crossing of the frontier and the launching of the attack at dawn on the seventh day. . . . Army Group C will hold the fortifications in its sector with a minimum of forces. . . ."

The following paragraphs outline the plan:

"Army Detachment N attacks from Rheine as far as the Rhine River west of Bocholt, beyond the Yssel, in the general direction of Utrecht and reaches the line of Grebbe. Any possibility of breaking through this line and the terrain prepared for inundation on either side of Utrecht, as well as the opportunity of marching on Amsterdam and Rotterdam and occupying these cities, must be exploited. The necessary reinforcements will be brought up then. The province of Groningen will be occupied by weak elements.

"Army Group B breaks through the Belgian frontier positions north and south of Liège and, after forcing the Albert Canal and the Meuse between Liège and Namur, assembles its forces north and south of Brussels so that, without loss of time, they may attack to the west and the powerful motorized forces may be dispatched from the Antwerp area toward the Ghent-Bruges zone. The enemy must be prevented from escaping from Antwerp and Liège. . . .

"Army Group A covers the attack of Army Group B against an enemy attack from the south and southwest. It will push its right army as rapidly as possible beyond the Meuse south of Namur in order to cover, or to extend, according to the directives of the OKH, the subsequent attack of Army Group B to the west. . . ."

In short, the attack on the Netherlands represented an independent hors d'oeuvre

of the main effort, with the principal role falling to the lot of Von Bock. There is no mistake about it—the OKH was inspired by the *Grosser Plan* of Von Schlieffen. As in 1914, the principal effort was to be provided by the right flank; the center and left flank were to do nothing but provide cover or act as a pivotal point. Yet the lesson of the Marne had borne fruit. The turning flank was to be pushed clear to the coast at the very outset and was not to lose contact with it even after turning south. In truth, although the document evidently does not breathe a word of it, the remainder of the maneuver is easily guessed: Once the Belgian Army had been taken care of and the coast had been reached, Army Group B would turn south and attack the allied armies before they had recovered from their surprise.

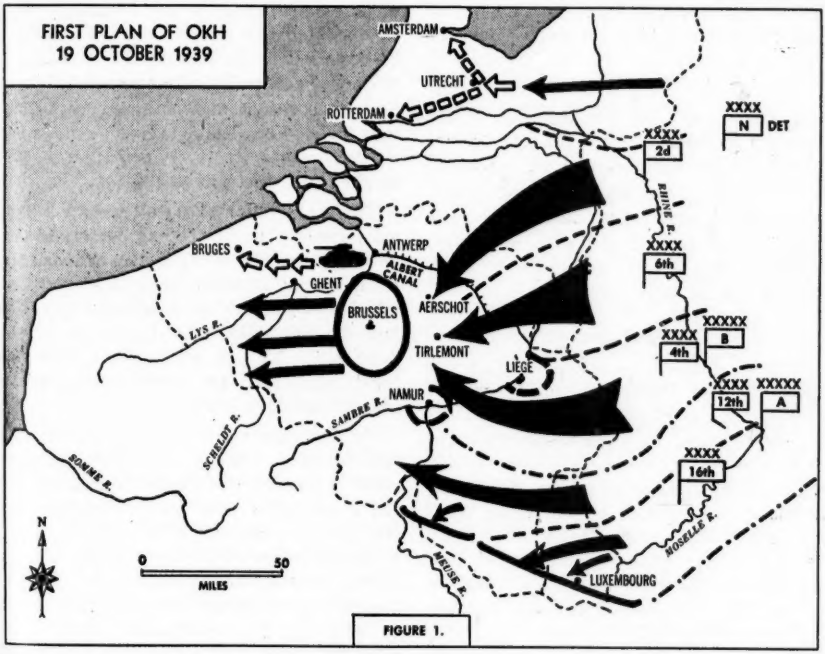


FIGURE 1.

It seems quite evident that the OKH depended a great deal on the crushing effects of the initial blow. It did not believe that the Belgian Army would be able to withstand it. What gave it more uneasiness was the considerable number of obstacles of all types that blocked its path to the coast. Its belief was that the attacking armies would have less opposition from powerful enemy forces than from the large number of technical obstacles confronting them, such as streams, canals, barricades of all types, and fortified lines. Detailed plans, careful preparation, and aggressive execution would be necessary if these obstacles were to be quickly overcome on a broad front. The OKH stressed the vital necessity for vigorous effort in the direction of the objective after the breakthrough and rapid support by reinforcements to assure the collapse of the first line of defense. Later

it will be important to spread confusion among arriving enemy reinforcements by launching a strong attack in conjunction with the air force to prevent the assemblage of strong enemy counterattack formations.

Hope of success would depend principally on the swiftness of the operation. It was questionable, nevertheless, whether or not the maneuver would really prevent the French and English from forming a coherent front in opposition to the German drive at any time.

Von Manstein had sufficient time to consider and answer the question during the few days he spent at his home in Legnica, Silesia. At his first reading he perceived the weakness of the plan. His long career as a general staff officer had made such tasks routine. He was regarded, moreover, as one of the best, if not the very best, German specialist in this matter.

Early History

Born a Lewinski, he belonged to an old family of the Prussian nobility which, traditionally, produced many soldiers. In his early youth, in accordance with the practice in vogue among the noble families on the other side of the Rhine, Erich von Lewinski was adopted by an uncle, General von Manstein, who fought in 1870 at the head of an army corps. His father also commanded a corps. On his mother's side he was a nephew of the old Marshal von Hindenburg. Like the latter, and also like Schleicher, he had first served in the 3d Foot Regiment of the Guards. In 1917, however, he was transferred to the General Staff and since that time had had a brilliant career principally in the study of operational and mobilization plans. At the time of the reconstitution of the General Staff in 1935, he was designated as commander of the Operations Section and, on 1 October 1936, he became First Assistant Chief of Staff thus exercising a great control over operational matters. His meritorious qualities were so well known that many considered his succession of Halder, even of Von Brauchitsch, as a fully settled matter. This reputation, however, evidently placed him in a delicate position with respect to the OKH especially since his self-assurance and his independence could have been mistaken as the marks of an ambitious spirit.

In any case, it was with the severity of a master sure of his technique that he dissected the plan of the OKH. When he returned to Coblenz on 24 October his criticism was ready. He discussed it with his collaborators and obtained authorization from Von Rundstedt to send in a written report to Von Brauchitsch. He would beard the lion in his den.

The commander of Army Group A was not hard to convince. Being of a reflective and well-disciplined mind, he regarded the offensive as a risky operation and one which should be avoided. He was happy to find in Von Manstein arguments which coincided with his own views, but the latter pushed his arguments much further than simple criticism.

He certainly made it clear that he was opposed to the plan of the OKH. He criticized it chiefly as leading to nothing decisive and at a time when Germany was engaged in a desperate struggle in which a false move could be fatal. "Whatever the initial success of the presently contemplated frontal attack may be," he writes in substance, " it will probably in no wise alter the fact that this attack will end in a new pitched battle on the Somme, and I need not call attention to the danger of a French counterattack from the south or southwest for, as a matter of fact, no success will ever be won without running great risks." (Figure 2.)

Not only did the form of the operation lend itself to criticism but the time of the year for beginning it was badly chosen: "The weapons that are capable of giving us superiority are the planes and

tanks. However, the weather and condition of the terrain will more or less paralyze or at least hamper their movements. Therefore, I do not believe that sending an army into an operation which can only be won by speed is the thing to do while there is the possibility that the action of our aviation will be restricted, without considering that at this season of the year the French would be able to take full advantage of their superiority in heavy artillery."

The plan, the available resources, and the time of year—all were against a decisive success. "We can count only on our active divisions to defeat the French and English. At the present time and in the more or less near future, the entire strength of the army, therefore, depends on them alone. Their loss would soon deprive us of trained reserves and their losses in officers and noncommissioned officers could not be made up. The Polish Campaign already showed us that troops possess a fighting spirit only when well officered. Their worth now and what their worth will be after a period of hard fighting can be imagined by recalling the shortage of active officers at the time of our entrance into war and the losses we sustained in Poland (1,300 officers in Army Group South). It would be a serious mistake to imagine that with their present deficiencies the new formations will very soon possess any actual combat worth." A weakness of this nature would have a serious influence on the outcome of events: "An offensively operating army will always be the decisive factor on the Continent in a war of long duration. We should not lose sight of the fact, either, that this also conditions the German-Soviet friendship. The Soviet Union has nothing of a decisive nature to fear from either France or England, however, she will always see in Germany, a possible and redoubtable adversary. She will permit us, therefore, to fight Great Britain, only as long as fear of the German Army makes her do so. As soon as the offensive power of our army is exhausted and the Soviets no longer have to figure on the possibility of having to withstand a German attack, then we shall have to consider all the possibilities."

If Von Manstein had confined himself to these catastrophic considerations, he would not have differed from the other opponents of an immediate offensive, but he now expressed an idea which was to revolutionize the plan: "For the command the key to success lies in surprising the enemy and in achieving the possibility of hitting him in the rear and flank as soon as he enters the conflict." Continuing, he evolved a course of action which was considered more favorable to Germany.

A long delay was impossible. Obviously, it could not be prolonged until Great Britain had had time to complete her rearmament. Besides, the battle had to be started under favorable conditions. "We must operate," he wrote, "in such a way that the fighting spirit of the French, which certainly is not at its zenith, will be put to the test under circumstances not calculated to raise it. It is of vital importance, therefore, in my opinion, to force the enemy to attack first.

"We may expect that if the aerial attack on England is intensified, this will force a penetration into Belgium, although the French will do this reluctantly. The sooner we can force our adversaries to do this the better, as the number of British divisions will be all the smaller. Our chances of success will be greater if we meet the enemy in an encounter battle while he is penetrating into Belgium against the will of the Belgians than if, and during the most unfavorable season, we are obliged to break the resistance of the Belgian Army awaiting us with their weapons ready. The enemy thus gains time either to cross Belgium clear to the eastern frontier without any opposition

from the Belgians or, to organize, without opposition, a counterattack from the south while we are firmly engaging our forces in a march toward the west with a poorly protected southern flank. . . .

"The Belgian Government should be made to understand that if we agree to respect their neutrality as long as it is determined to defend it from all forces on the two sides, and to ensure this defense by preparations and the deployment of the proper means, on the other hand, any Franco-British penetration accepted without resistance, will result not only in an immediate German invasion, but also in the destruction of Belgian cities by the German Air Force.

"Proceeding in this manner, we must not permit, in my opinion, a delay of more than a few hours between the enemy invasion and the resultant penetration of the German Army into Belgium, but this will be in exchange for the advantage of imposing a task on the French Army that is quite incompatible with the weak fighting spirit of the French people and of acquiring for ourselves a much better strategic situation.

"It was the army that crushed Poland. It is now incumbent on our air and naval forces to force Great Britain to take the step that will quickly separate France from her, that is, to proceed to the attack on the Continent.

"From a military point of view, a war against Great Britain can be won only on the seas and in the air. On the Continent we can only lose it if we spend the offensive strength of the army without a decisive result. . . ." And, in conclusion, with unassailable logic that must have been appreciated by the recipients: "The moment of the victorious decision on land will have come as soon as we shall have forced the enemy to attack. It is this and not the engagement of the offensive strength of our army under unfavorable conditions and with a non-decisive objective in view that, in my eyes, is the real task of the High Command of the Armed Forces."

He adds, with a tone of more respect for the military hierarchy: "The commander of the Twelfth Army, Colonel General List, came to me several days ago with similar ideas, earnestly asking me to pass them on to you. I leave it to your judgment whether or not his views should be considered. I have not confused the commander of the Sixteenth Army in his task by acquainting him with these considerations, because when an order is given one must not spread doubts in the subordinate echelons concerning its efficacy. On the other hand, one's responsibility to the highest military authorities makes it obligatory, in my opinion, for one not to remain silent concerning objections of so grave a character."

This letter of five pages was dispatched on 31 October over Von Rundstedt's signature, which was in order considering the importance of the document and its recipients.

The day before, headquarters of Army Group A had received a new version of the OKH plan of 29 October. (Figure 3.)

Changes in Plan

It was not only those who would be obliged to execute the plan who had discussed it. The OKH had noted several of its weaknesses and Hitler had intervened with the hope of keeping Holland as much as possible out of the battle. The right flank of the Sixth Army was to content itself with crossing the Dutch portion of Limburg by slipping along the south side of the North Canal toward the Belgian plains. The Führer hoped that the Dutch Government, happy over getting off so easily, would refrain from dramatizing this limited violation of its territory.

As a whole, however, the new plan retained the principal features of the preceding one. It still called for rolling up

the Allied left flank in Belgium. The principal role was still left to Von Bock whose forces had been augmented. Through Hitler's intervention, the main effort was even complemented by an airborne operation by two divisions southwest of Ghent between the Lys and the Scheldt Rivers on the first day of the offensive. From all evidence, however, the Führer and the OKH regarded the threat of a French

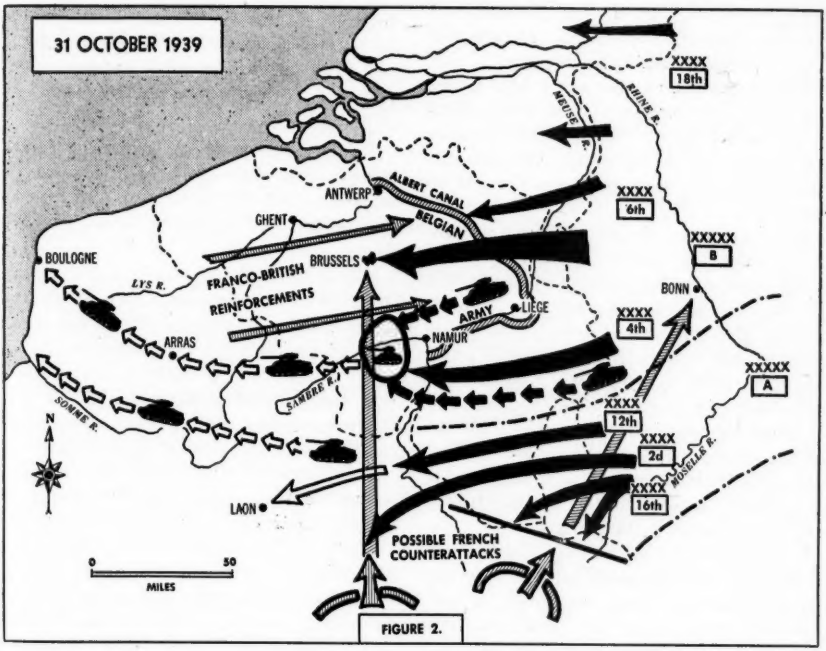


FIGURE 2.

counteroffensive with less serenity than Von Manstein. The fact is that the majority of the alterations were inspired by the desire to escape the French reaction which probably would come from the south or the southwest. This prudent reflex changed the movement which before had converged into central Belgium. The two armored groups launched from each side of Liège were no longer to meet south of Brussels and later to push on together to the coast. The north group was now centered on Ghent where it would operate in conjunction with the airborne corps of Air Force General Kurt Student while the south group would march on Thuin.

The OKH spread out the offensive and dispersed the efforts. This tendency was clearly marked in the new mission assigned Army Group A. Doubtless it again was an attempt to cover the principal attack conducted by Von Bock, but form had become more dynamic: Army Group A will cover the attack of Army Group B against enemy action coming from the south and southwest. For this purpose it will push its right army as rapidly as possible across the Meuse abreast of, and south of Fumay, and afterward through the French frontier fortifications in the general direction of Laon.

Thus a multiplication and divergency

of the axes of attack begins to appear and continues until January 1940 to the point where it finally gives rise to an unhealthy condition which was to play a part in the radical upsetting of the plan.

New Proposal

The revamped plan did not, however, satisfy Von Manstein. Throwing still more light on certain of the ideas that he had discussed in his first letter, he immediately wrote again to Von Brauchitsch bluntly proposing to him an entirely new maneuver with brilliant prospects.

This document of two and a half pages constitutes the origin of the plan which the following spring was to bring a smashing victory to the Germans. Through his Chief, Von Manstein expresses himself as follows:

"The operation prescribed by the new instructions has as its object the defeat of the most powerful British, French, and Belgian forces in Belgium and France north of the Somme and reaching the English Channel. It anticipates that the enemy will immediately send into Belgium its units stationed on the frontier, and on their being outdistanced—principally by the powerful German motorized formations—so that the enemy will not be able to succeed in conducting a coordinated operation north of the Somme.

"It is thought that an initial success in Belgium will be achieved over the advanced Franco-British forces. It is not, however, on this that the victorious outcome of the over-all operation will depend. We must defeat and destroy all of the enemy forces fighting in Belgium and north of the Somme and not simply push them back in a frontal attack. At the same time we must intercept the French counterattack which is certain to come from the south or the southwest, even though it is not launched immediately.

"These considerations necessarily lead in the case of Army Group A, to the concentration of the main effort of the combined operation on the southern flank. The initial gains of our motorized forces in Belgium will constitute only a preface to the combined operation. The main effort must be developed south of Liège, beyond the Meuse above Namur, and in the direction of Arras and Boulogne, in order to cut off from the Somme all the enemy forces brought into Belgium and not merely to throw them back on the river.

At the same time this southern flank must be strong enough to be able to repulse the French counterattack against its left flank in such a way that the operation may proceed as far as the coast.

"It seems necessary therefore:

"1. To place powerful motorized formations in the line south of Liège, in the southern part of the Fourth Army sector and in the zone assigned to the Twelfth Army.

"This direction of attack will lead into the rear of the Belgian Army in position to the northeast, and in view of the weakness of the Belgian fortifications in this area will permit a more rapid advance than through the area north of Liège. The delayed crossing of the Meuse, either south of Namur to the west or on both sides of Namur toward the northwest, can be opened to these forces by the troops operating north of Liège over a route which at first will be more difficult but at the same time shorter.

"The engagement of powerful motorized formations in the sector of the Twelfth Army does not exclude the possibility that after a successful breakthrough all the motorized forces in the lines north and south of Liège can be joined abreast of Namur and taken over by an army under the command of Army Group B. The rapid pursuance of the operation clear to the coast and, in fact, as far as the lower Somme is without question the mission of Army Group B, while the mission of providing cover to the south and southwest is the task of Army Group A.

"2. To bring up an army with sufficient fighting forces behind Army Group A. We must certainly count on a powerful French counterattack from the south along the Moselle in the direction of Bonn and, probably also from the southwest, west of the Meuse in the direction of Brussels.

"The eastern flank of this attack must be caught on the defensive, north of the French fortified line Thianville-Montmédy. west of the Meuse and will come from the southwest. For this reason Army Group A must introduce west of the Meuse, between the Twelfth Army marching on Laon and the Sixteenth Army which will be holding itself on the defensive between the Meuse and the Moselle, a supplementary army for the drive toward the south.

"As long as the Army Group has only

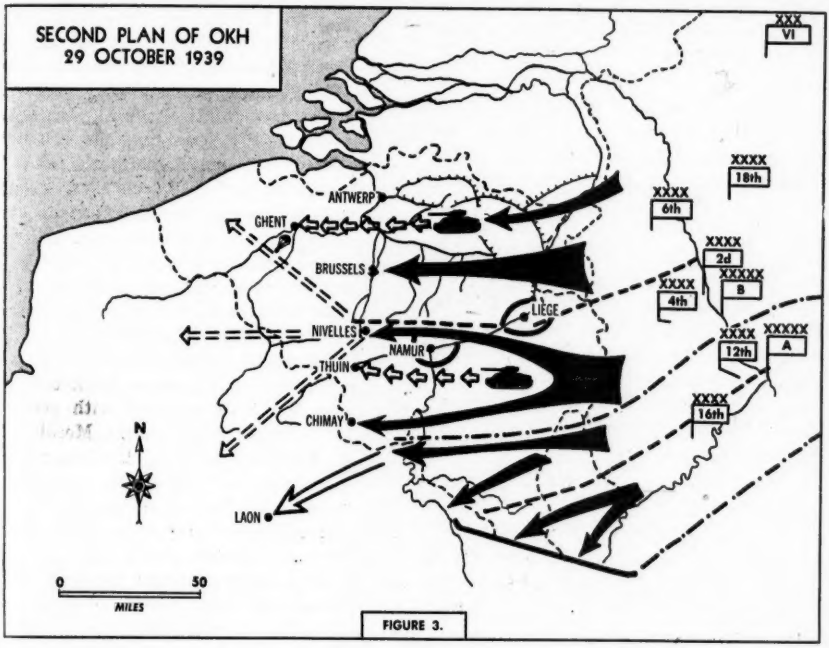


FIGURE 3.

It is questionable whether the Sixteenth Army would be able to resist this very long with its forces alone.

Supplementary Army

"On the other hand, if it is a question of making it possible for Army Group B to continue the operation to the coast, the French counterattack must be parried in an offensive manner. It is generally expected that this counterattack will occur the Twelfth and Sixteenth Armies available for its mission, it will be more or less at the mercy of the enemy. It is only by the introduction of a supplementary army that it will be possible to provide cover for the south and southwest flanks of Army Group B, thus enabling it to obtain a rapid success.

"It is hardly imaginable that the enemy will commit the mistake of hurling forces that are too powerful into Belgium with

its northern flank. Consequently, with three armies Army Group B will be strong enough to fulfill its mission. If the enemy commits this mistake, however, the final decision will pass to the Twelfth Army in the direction of the lower Somme provided its southern flank can be covered by an offensive conducted by a supplementary army.

"It is Army Group A that will be in danger, but on the other hand it will also have the opportunity to achieve a great success especially if the enemy greatly strengthens his northern flank."

Thus conceived, the plan embodies the conditions of success. By skillfully distributing forces, Von Manstein counted on obtaining maximum effectiveness by means of surprise, speed, and power at the decisive place and moment. Appearing unexpectedly and in force out of a weakly defended region, he would crush the defenses, cross the Meuse, and then assembling all his tanks he would push in the direction of the sea, across the allied lines of communication, inflicting a staggering blow, while a secondary thrust toward the south would ensure freedom of action and continuity of maneuver.

It would not be Cannae again; it would be Arbela.

But the reception accorded the plan by the OKH was devoid of warmth. On 1 November when Halder received the criticism of his initial plan, he noted simply in his journal: "Report of Army Group A: Positive aspect wanting. Adverse criticism." Moreover, this was not entirely untrue. It would, however, have been difficult for him to express the same objections in regard to the second letter. In reality, if he did not attach more importance to it, it was because he was convinced, as were the majority of the generals, that the German Army was not yet in a position to engage in an offensive action. After an inspection of the front which led him first to Von Bock and then to Army Group A, he wrote on 3 November, "No high military authority considers that the attack prescribed by the OKW is likely to succeed. We cannot expect a victory that will decide the issue of the war on the Continent. Generally speaking, the attitude of the enemy is as envisaged by the OKW." Caustically he added: "Each army group is almost persuaded that the full weight of the enemy's countermeasures will be carried out on its front." As for Von Manstein's second letter, he is perhaps alluding to it as he notes: "I do not share the views of Army Group A according to which it would be necessary to guard against a powerful counterattack emerging from the Maginot Line with remote objectives (right flank on the Moselle)."

Thus, for the time being, the fate of the Von Manstein plan was sealed. It was to take a great deal of insistence and even vigorous effort to bring it out again onto the carpet. Contrary to all logic, it was finally as a spectator that he would see the realization of his idea, for it is not enough to be right; one should also be forgiven for it.

MOVING?

If you are moving, please notify the MILITARY REVIEW, Fort Leavenworth, Kansas, of your change of address. Be sure to include your name, *old* address, and *new* address.

Bridging the Gap

Digested by the MILITARY REVIEW from an article by Lieutenant P. J. Coakley in "An Cosantóir" (Ireland) October, 1953.

IT IS NOT uncommon to find in references to modern armies and modern warfare the terms "military machine" and "machine age." The impression is conveyed that the modern army is something mechanical and the modern soldier no longer a human being. In actual fact this is far from being the case. The many machines now used in warfare are subject to their master, the soldier, at all times. The soldier himself, no matter how well trained, no matter how disciplined, is still a man at heart; still very much a prey to the instincts, emotions, and impulses of the ordinary human being.

During peacetime training the soldier almost becomes the automaton. His life is so well regulated, so highly regimented that, insofar as his reactions to the events of everyday army life are concerned, he is practically a machine. The longer the training, the more rigid the discipline, and the more machine-like he becomes. Then one day comes a change. His period of training, his maneuvers, and mock battles are over. He faces the real thing for the first time.

All at once he is up against an entire series of completely new experiences. Never before was he asked to fire on, and if possible *kill*, another human being. And, unkindest cut of all, never before was the target for his fire able and even anxious to fire at, and *kill* him. During all his exercises and maneuvers things were never quite like this. Why *wasn't he told* there would be such a difference? He is like a newborn baby experiencing the outer world for the first time and he feels just as helpless.

You may say that there is not such a great gap between modern military training for battle and battle itself—that training is now so realistic that to go into battle is the next logical step and one for which the soldier is fully prepared. In support of the contention that such a gap exists despite the advances in training methods we turn to no less an authority than Brigadier General S. L. A. Marshall, the official United States historian of the European theater of operations during World War II. General Marshall made a comprehensive study of the reactions of the American doughboy to his first engagement with the enemy and outlined his findings in his book, *Men Against Fire*. He has this to say: "It is not within the ingenuity of man ever to close fully the gap between training and combat." Clausewitz recognized the existence of such a gap and realized how important it was to narrow, if not to close it. His words are: "It is of first importance that the soldier, high or low, should not have to encounter in war things which, seen for the first time, set him in terror or perplexity."

Is it not intended that training should provide for every eventuality in combat, you might ask? Does it not tell the soldier what to do, and practice him in the actions required when he comes under fire? Yes, he is taught to dive into cover, to move to a position of observation, and to return the fire at the earliest opportunity. But now a new element has entered into the situation —an element which in training can never be properly simulated. This element is *fear*.

Somewhere out in front is an enemy eager to kill him. Fear strikes the soldier and this applies to all soldiers except those of particularly low mentality who seem to be too "dumb" to be able to visualize where danger lies. Fear causes changes in mind and body which vary in effect from individual to individual. For some it may result in virtual paralysis. The term "petri-

fied with fear" can be real enough in such cases. No bodily movement is possible. Even the mind itself virtually ceases to function. Of this General Marshall says: "When the infantryman's mind is gripped by fear, his body is captured by inertia which is fear's Siamese twin." This applies equally to all human beings and not to the "footslogger" only.

New Experiences

Apart from fear, soldiers coming under fire for the first time have other new experiences to face. First of all, the man who up to this time had been part of a team, with teammates in sight or nearby, now suddenly finds himself alone when all go to earth. His companions, like himself, have melted into the ground. There is no one to see if he decides to lie "doggo" and let events take their course. This line of action seems to hold out promise of less danger to himself and after all, if his companions are gone, only himself matters. The influence of human respect is, to a great extent, lost.

For those whose disability lies in a lack of initiative the incentive to action which imitation provides is similarly lost. There simply is not anyone to imitate. Everything favors inaction and it is no wonder then that inaction is so often the order of the day. Is it any wonder that statistics show that even in active and successful units in World War II the percentage of the men who had even *used* their weapons in any engagement rarely, if ever, exceeded 25. Only 1 out of every 4 had actually fired their weapons.

Some soldiers it is true will endeavor to carry out those actions which have become almost automatic with long training. They look for targets for their fire, but no targets appear. Again we quote from *Men Against Fire:* "The common scene in open warfare is a landscape. The total absence of moving things is the surest sign that one has reached the line of danger." Men are naturally perplexed because they have always been taught to fire at targets and not at landscapes.

One or two may fire in the general direction of the enemy fire, but only in a halfhearted and shamefaced manner as if they were expecting at any moment to be rebuked for wasting ammunition. What has now become of the firepower of the unit? Some revision of the preconceived ideas seems to be called for on this subject. Alternatively some alterations in methods of training or selection of personnel are indicated.

Lack of Knowledge

What has been described here is, according to General Marshall, the normal reaction of troops first coming under fire. He says:

The weaker ones will be shaken out of the company by this first numbing experience adding fresh numbers to the statistics which show that more battle fatigue cases come from initial engagements than from all subsequent experiences in the line.

The cause is mainly that men go into battle not knowing what battle is like. They face their first experience of combat without many of the aids to morale which *could* be provided. The gap between the raw replacement and the battlewise veteran is too great. Too many of the former fail to survive long enough to warrant being termed the latter.

How to combat this fear, how to reduce the shock of this first contact with the enemy is the problem. Dollard in his book, *Fear in Battle*, writes:

If a man knows what he is fighting for and has an intimate, personal need to win, his zeal in battle will tend to triumph over his fear. . . . the soldier must have the war aims within his skin, operating as personal motives to fight.

Defense of homeland, the likeliest war aim for our troops if ever they are called

into battle, is sufficiently personal and intimate to meet requirements in this respect.

Pride in one's unit, which has been well engendered during training, helps to overcome fear and to create an urge not to let the unit down under any circumstances. This urge will be greater if a man is never entirely isolated and alone during combat. The building up of small teams of, say, three men within sections, who are in all circumstances to operate as a team, would help to overcome this isolation difficulty. It has been found that men who failed as infantrymen, could not, in fact be made to return the fire of the enemy under any circumstances, later operated quite successfully as members of teams, whether as machinegunners, mortarmen, or artillerymen.

Du Picq in *Battle Studies* referring to the problem of isolation and its effects on courage says: "The more men think themselves isolated, the more need they have of high morale." In modern warfare when men no longer fight shoulder to shoulder, when movement is more the order of the day, and when even in positional warfare the slit trench and foxhole have replaced the continuous trench of World War I, the chances are greater of men becoming isolated. The need to strengthen the intangible ties that bind man to man is all the more pressing.

It is with this end in view that the suggestion already referred to is made that small teams of riflemen, strengthened possibly by the inclusion of a light machinegun, be formed *within* sections. These teams of, say, three men should be trained together, operate together, and be imbued with the spirit of "each for all and all for each." This would not mean that the section and platoon organization be done away with. However, it would mean that no matter what the exigencies of the situation, the smaller teams would continue to operate as such, that each man should at all times endeavor to keep in contact with his teammates, uniting his firepower with theirs. The smaller team is suggested in view of the difficulty of ensuring that the 10-man section maintain the very close contact that is envisaged here.

Close Contact Groups

And what of the result? Again we quote General Marshall:

Whenever one surveys the forces of the battlefield, it is to see that fear is general among men, but to observe further that men commonly are loath that their fear be expressed in specific acts which their comrades will recognize as cowardice.

The smaller the unit, the closer the cooperation, and the less likelihood there is of acts of cowardice passing unnoticed. If it should so happen that temporary isolation of a soldier occurs, then the subsequent "post mortem" on the section will soon disclose the fears and failures of each and every member of the team. In a larger unit an act of cowardice stands a much better chance of passing unnoticed.

Action stands very high among the list of means to combat fear in the soldier. In any engagement with the enemy, action, in the shape of using the weapon with which he is armed, is of vital importance, both to the man himself in his fight with his fears and, naturally, to the unit in its tussle with the enemy. General Marshall has this to say: "The man who has the fire habit is always looking for forward ground from which to give his fire increased effectiveness." Here you have a combination of three things which make for increased effectiveness in a soldier. First, you have action which combats reflection and the wild imaginings induced by fear and which in turn only add to that fear. Then you have fire which if it does not affect the enemy physically, will certainly affect his morale. Finally, you have movement forward which is the aim of combat. "Fire is the key to mobility" it is said,

and one soldier with the fire habit is worth a dozen without.

This fire habit is of such importance and the numbers possessing it so ridiculously low that special study into ways and means of promoting the habit is called for. It has been found that the absence or otherwise of companionship has a profound effect on a soldier's propensity to fire his weapon. Again we quote General Marshall:

The warmth which derives from human companionship is as essential to his (the soldier's) employment of the arms with which he fights as the finger with which he pulls the trigger.

Who would think of sending a man into battle without his trigger finger? But this is what has been done as a matter of course so often in the past. Troops are frequently called on to fight without the boost to morale which companionship provides. The replacement so often fights side by side with total strangers just when he is most in need of high morale to meet the shocks of his first contact with the enemy. It was General Marshall's experience that the "replacement who goes into battle without getting to know his new associates usually breaks under the early strain of battle." It is obvious that to have companionship you must first of all have friendship.

Have we not here another argument in favor of the "small team" already mentioned? If it should not be feasible to replace the entire company, platoon, or even section that has been badly mauled in combat, surely it could be possible to keep the 3-man teams intact and replace them as such. In this way we could make certain that each man has two "buddies" closest to him at all times. "The fighting man is sustained by his fellows primarily and by his weapons secondarily." General Marshall surely rates companionship highly as a builder of morale.

If perchance a man should find himself temporarily isolated during the course of an engagement, his training should tell him to use every means in his power to seek others and join his force to theirs. "United action is the basis of success," says General Marshall: "united action as between the soldier and his fellows in the unit and united action between units, both small and big, that are in contact with each other in the line of battle." It may be hard to believe but it has certainly been proved during World War II that leaders, and soldiers too, do not use the voice as much as they should to secure control and maintain contact during battle. In units gone to ground men have been known to consider themselves isolated when only a few yards of broken ground separated them from their companions. Within sections and certainly within the "small teams" men should be taught to maintain contact by word of mouth; to shout if necessary if by so doing they help to dispel that sense of isolation so baneful in its effect on men's minds. "The battlefield . . . is the lonesomest place that men may share together," says General Marshall.

Leadership Qualities

Men should not be taught to underrate the enemy; neither should they be allowed to overrate him. It is a consoling thought for the soldier, feeling fear for the first time, to realize that the enemy is just as scared as he is, if not more so. It is also good to know that his (the enemy's) fear will definitely increase as does the volume and effectiveness of the fire directed at him. If this is impressed on the soldier during training, it may result in more making proper use of their weapons.

Good leadership is of such great importance in the fight against fear in battle that it deserves very special consideration. Dollard says: "It is a military axiom to say that decisive and competent leadership helps to control fear." Decisive and competent leadership will help to eliminate

the doubt and perplexity which beset the minds of men on first contact with the enemy. To quote only one example, if the section commander issues a very definite and decisive fire order to his men in a loud clear voice most of the section will automatically obey. They will set their sights and seek the target as indicated. Actions such as these will keep them occupied and may help to shut the wild imaginings which are fear's great allies. Action is what is required at this critical moment, and decisive leadership quickly directs the action to be taken.

But good leadership can do much more than this. It can influence and direct even when the leader is far from the scene of conflict. Norman Copeland in his book, *Psychology and the Soldier*, describes leadership as "the art of dealing with human nature." To be more explicit, he continues, "It is the art of influencing a body of people by persuasion or example to follow a line of action." It is, of course, impossible for the leader to be always with his men in a physical sense. He may, however—and it is here that real leadership shows—continue to influence the actions of his men when far away from them. For a leader thus to influence the actions of his men he must be possessed of personality of a high order. In addition, his men must know him long enough to come under the spell of that personality. Far too often the soldier meets his leader, just as he meets his fellow soldiers, for the first time only a few days, perhaps only a few hours, before he faces the enemy, also for the first time. Once again we fail to fortify him as we should and could for this, perhaps his greatest ordeal.

"A personality that is not built upon character will never lead. And much less will it ever inspire." For this quotation we are once again indebted to Norman Copeland. One of the first essentials in the future leader is character. The soldier must get time and the opportunity to get to know his leader as a man of character —a man from whom he can always expect a square deal. He must see in him the ideal at which to be aimed. Finally, he *must come to regard him as someone whose opinion of himself matters not a little.* All this takes time and cannot come about suddenly on the eve of battle.

When, at a later date, the soldier goes into battle under this same leader he will have this leader before him in spirit all the time. All his actions will be conditioned and mainly determined by the thought of this leader passing judgment on them. Some may scoff at the idea of anyone being as easily influenced by another person. But not even the scoffers themselves are immune to the influence exercised by the leader who is possessed of strong personality.

"Weapons change," says Henderson in *The Science of War*, "but human nature—which is the paramount consideration of all questions of either tactics or strategy —remains unaltered."

Man was originally a gregarious animal and will remain so even to the end of time. He seeks the company of others at all times and particularly in his moments of greatest stress. We should make sure we do not deprive him of that company. As a gregarious animal he requires a leader and a *leader* he must have. Our soldier going into battle must possess good weapons with the necessary skill to use them to best advantage. He must be sturdy and well trained from the point of view of bodily fitness. He must have a good motive for endeavoring to secure the defeat of the enemy—a motive which is as personal as it is possible for such a motive to be. But, most important of all, *he must have comrades near him in the field of battle and not strangers.* He must have a leader whom he knows *personally and respects.* It is only thus that we will, at least, have made an attempt to "bridge the gap."

Intelligence in Atomic Warfare

Translated and digested by the MILITARY REVIEW from an article by Colonel Achard-James in "Revue Militaire d'Information" (France) 25 June 1955.

IF THE use of atomic and thermonuclear weapons has brought something entirely new to the military art, then the repercussions that these weapons may effect in the field of intelligence cannot be overlooked. Every means of warfare first presents itself to the one who employs it in the form of a "capability." These capabilities may be either strategic, tactical, or technical depending on how the means are employed. Atomic or thermonuclear weapons possess all these capabilities with the one dominating depending on how the weapons are employed.

The destruction of the enemy is certainly the most positive and surest means of getting the enemy to yield; however, today one must not only destroy the enemy on the frontline but also his industrial centers in the rear. In World War I the extended front prevented a simultaneous attack on the fighting forces and the rear areas. In World War II these actions were simultaneous and the process of reorganizing fighting units was slowed by the action against the rear areas.

In the future the use of the atom bomb on the rear areas will lead to total and immediate destruction which was formerly an unattainable strategic ideal. Its use on the frontlines will permit the opening of a breach in a system of tactical obstacles and allow rapid exploitation, a feat which was not possible previously. Thus the employment of the bomb not only permits amelioration of the methods of attaining a strategic objective but it will ensure broader capabilities of adopting the strategic objective best suited to the political requirements. It is in the field of determining these capabilities that intelligence will play an important role.

Defensive Aspect

Whatever side is considered, whether offense or defense, the intelligence officer must always take these capabilities into account and include them in his studies. Depending on the point of view from which one regards them—offensive or defensive—the problem possesses a different aspect and it will be examined from these two angles.

We shall designate as the defensive aspect the point of view of the side which anticipates receiving these bombs whatever its strategic or tactical attitude otherwise may be. Likewise, the offensive attitude will consider the utilization of the bomb for the support of a defensive or offensive tactical or strategic action.

In each case we shall examine the problem of the determination of the needs with respect to intelligence, of investigation, and of capabilities.

In the utilization by the enemy of a means of warfare it is always necessary to consider three stages: the creation of the means, constitution and instruction of the units, and manufacture of the means; the movement of these means to the location of their employment; and putting these means into operation.

When faced with a so-called conventional arm, these three stages require appreciable time during which intelligence may operate. In the case of modern weapons the problem is different—the last two stages disappear almost completely, while the first is extremely long.

As always, one will seek to destroy the means that the enemy may utilize. If dealing with the atomic cannon, the case is conventional. However, in the case of projectiles it is in the first stage, that of

manufacture, that one may hope to reach them. This may also be done during the time of their transportation by plane to the location of their employment, but this probably will be unlikely. Storage dumps will be greatly reduced as a few bombs of enormous capabilities will occupy only a small space.

One will concentrate, therefore, on discovering the location of the manufacturing plants and the possibilities of destroying them. This does not apply solely to atomic means, however; the discovery of the places where these are manufactured will have absolute priority. These investigations can be conducted only by highly specialized agents. An overly generous press will constitute an important source of information. The advantage will always be on the side of the country which is able to maintain secrecy.

During this period of investigation the attempt will be made to determine precisely the technical value of the bomb's destructiveness. Modifications in this field could have repercussions on strategic and tactical capabilities. These can be established only after experiments, during the course of which everything is done to maintain secrecy. The real technical capabilities of the enemy will remain hypotheses only, with all the difficulties which this presents in a final estimate of enemy capabilities.

One will also make an effort to learn the number of weapons at the disposal of the enemy. In fact, it is on this number that the manner of employment will depend. Care must be taken not to go too far in the matter of deductions made on the basis of knowledge concerning this point. To assume, *a priori*, that the enemy will make use of the bomb—if he has only a few of them—on large concentrations only would be to ignore the possibility, without reason, that he has of dropping it anywhere. To gamble on this possible restriction would be to run the risk of a miscalculation. It will be necessary afterward to determine where the enemy is able to carry his bomb—a conventional problem of intelligence relative to aerial means. If the cannon is used, it will likewise be a conventional problem relative to the use of artillery. In the absence of this information, one will fall back on all the hypotheses that may reasonably represent the actual situation. At the same time he should not neglect the possibility of his means being superior to ours in point of suitability for use against varied targets and in point of time required for putting it into action.

Having thus studied the second stage—transportation after manufacture—we shall pass on to the third, that of putting the means into action.

Our study of the first two stages has revealed the material degree of capability which the enemy possesses of employing the bomb. However, there exist other points of view. Taking into account the moral and psychological contingencies and the repercussions which the unleashing of atomic warfare could have, the question is, does the enemy have the real capability?

Moral restraint finds little place in war; the principal thing is fear of reprisals. It seems primitive to evaluate this on the basis of the number of bombs the adversary is able to utilize. Reason counsels us to consider the number of targets. A schematic example will help in understanding this problem. Let us take for instance a country which possesses a great many bombs but which has only a single extremely vulnerable and vital center: its capital, industrial zone, and a port. Its adversary has but a single bomb but has succeeded in dispersing its vulnerable and vital centers over an infinite number of points. In spite of its atomic superiority, the first of these two countries cannot unleash an atomic war without risking a decisive counterblow while its own action certainly will not have the same result.

It is a function of intelligence to ascertain the effectiveness of the respective actions, that is to say the real capabilities of decisive destruction and not the technical capabilities alone.

Reprisals may be effected by other means. For example, occupation by the friendly forces of a part of the enemy territory—if it is densely enough populated —may be a serious trump for a country which possesses no atomic means. In fact, it permits obtaining by conventional means results equivalent to those of the bomb. The same occupation by the country which possesses atomic weapons provides it with the opportunity to shield its vulnerable means there. Intelligence officers must take account of the circumstances.

Psychological Aspects

Study of the moral resistance of the two sides will be of capital importance. This is a form of comparison of forces that is often neglected, at least in France. Our adversaries of yesterday and those of tomorrow will give it a more logical place. Again it is the duty of intelligence officers to determine this relationship between moral resistances: the psychological aspect of the relationship of forces.

This having been done it will be necessary to consider the general conditions under which a nuclear or thermonuclear action will take place. The extension of the effects of the explosion by the carrying of radioactive particles to considerable distances gives particular importance to meteorological conditions. The predominately westerly winds of Western Europe could make the use of large atom bombs by an enemy from the east dangerous for his own territory. In other theaters the situation could be the reverse.

The material and psychological possibilities of the employment of these means being thus established, this study will turn to the tactical and strategic possibilities that could be opened up by their use.

At this point let us return to the matter of the employment of atomic and thermonuclear weapons on the basis of their effects. We are accustomed to assuming that the bomb will be employed only against worthwhile targets. This assumption will be based on positive knowledge that the enemy will employ it, and that in so doing he will consider only its technical effects: destruction evaluated in terms of human lives, sundry matériel, and fortifications.

We know how difficult it may be to discover the location of the objectives that are worthwhile from the technical point of view. To assume, as a principle, that the enemy will systematically attack such objectives and these only is to assume that he has a perfect knowledge of friendly dispositions and, more generally, of the distribution of personnel, of matériel, of fortified works and their vulnerability, and that he has this knowledge sufficiently in advance.

Let us recall what was said previously. If one has but few means, one will hesitate to employ them without hope of results close to the technical maximum. On the other hand if one possesses a great number, one will eventually contemplate their employment against zones in order to ensure a systematic mopping up of certain portions of the terrain without regard for what may be there from the point of view of its particular importance.

Strategic Aspects

This leads us to consider no longer their technical but their tactical or strategic effects. It is conceivable that the certain destruction of the means located in or menacing the decisive direction of a strategic effort may be given priority over the destruction of means that are far more considerable but which exercise no threat against this effort.

Far from limiting himself to the technical aspect of the capabilities, the intelli-

gence officer must, therefore, assiduously study the strategic capabilities that could result from the employment of the bomb, and not hypnotize himself through unswerving attention to the material effects.

He will not, however, neglect the capabilities of destruction of the friendly potential that the mass employment of the bomb could give the enemy and the decisive results he could obtain directly by this means.

When the situation of the enemy means has been established, the intelligence officer deduces the maneuvers which the enemy could effect. Thus he arrives at alternatives, at *either—or's*. Each of these maneuvers that is considered will make use—so it is assumed—of all means available to the enemy. Thus when one of the actions is employed the others will become impossible and its repulse or the adaptation of one's own means to it may be oriented toward it without reservations. One must take care in modern warfare not to reason in this fashion with respect to the employment of conventional means and atomic weapons.

The utilization of the bomb does not of necessity, although it may in actual fact, result in renunciation of the employment of conventional weapons. This is a capital point to be determined. In short, several possible maneuvers with conventional means will be balanced against equivalent means and methods with modification within fairly narrow limits. There is absolute antinomy between the reply to atomic action and that to conventional action. The latter requires a concentration of efforts for obtaining a desired result and this concentration cannot be below a certain minimum. The reply to the bomb requires a dispersion of means. Even if the enemy does not limit his use of the bomb to attacks on concentrations, these will, nevertheless, always be tempting targets.

Consequently, it will be necessary either to possess conventional means which can reply to conventional actions or means suited for replying to the bomb—or both of them, or a system which is able to adapt itself to either of them. This, of course, gives rise to very particular needs in the matter of intelligence. One will ask himself whether the enemy can use only conventional means or only the bomb. This may be done in two stages.

In the preparation stage this comprises the questions of matériel and financial capabilities. An enemy may not have the capability of procuring, manufacturing, or utilizing the bomb. He is able to raise only an army of the conventional type. Or on the other hand one may consider in a simple manner a very small country without sufficient human resources for constituting a conventional army of international worth, devoting all its economic capabilities to modern means, and thus becoming a military power. In these two eventualities the answer is simple. The problem arises when the enemy is able to do either one, as is the case at the present time with the blocs facing one another.

If the enemy actually has the two categories of means at his disposal, then in view of the antinomy which exists between the answers to each of them and the speed with which he could pass from conventional to atomic action and, perhaps, inversely from atomic action to conventional, one cannot content himself with defense against merely one or the other.

This constitutes a very modern example of choice of hypotheses. To depend entirely on the atom bomb is undeniably to accept the most dangerous hypothesis. If the enemy does not use the bomb, he will perhaps be able to break through an excessively dispersed and drawnout disposition with only a few aids. The threat of the bomb itself will have been the most perfect plan of deception for the enemy.

It is not within the scope of this article to show how one may reply simultaneously to the two hypotheses or change over rap-

idly from the one to the other. In view of the length of time required for bringing conventional means into position one can more easily envision the changeover from dispersed to dense disposition than the reverse. The dispersed disposition, suited for all atomic actions, will be designed as cover during the switch to the dense disposition. The decision to change from one to the other must be decentralized.

The same is to be said for the dispersion operation. However, the decision and execution must be still more rapid. One cannot think of dispersing his forces at the moment when the bombs are released. Troops in contact with the enemy must be alert to react to any special dispositions the enemy may adopt. It is important that these special dispositions be discovered in peacetime so that troops can be trained to look for them.

This brings us to the second stage of the investigation, that corresponding to the utilization of the bomb. One will ask himself whether the enemy is able to act simultaneously with conventional and atomic or thermonuclear means, what type of means, in what density he may be able to operate in the contaminated zone, and after what length of time, or whether he has to avoid certain parts of the zone.

It is, moreover, a characteristic of this new form of war. It really appears as though contact intelligence and incidental intelligence obtained during operations will have a reduced role in this defensive situation. Almost all the important intelligence investigations will be carried on *in the interior of the enemy territory by agents and at a very high level.*

Offensive Employment

Let us pass now to the matter of the intelligence activity necessary in the offensive employment of the bomb. The decision relative to the employment or nonemployment of this weapon will be conditioned by a decision relative to the principle that will govern its employment. It is useless to speak again of the psychological and moral aspect of the problem which we have already discussed. We shall treat only of the principle of its employment as dictated by the number of such weapons available.

If one possesses a large number of the bombs, no particular problem will be posed for intelligence. The decision to utilize this means will be made as a result of the existence of adequate targets. It will be incumbent, therefore, on the intelligence officer to discover them. These may be important technical objectives such as immobile matériel, depots, shelters, various installations, and ports, or they may be mobile means or matériel such as columns of vehicles, troops, or mobile supply lines.

Intelligence should be directed toward discovering enemy concentrations and thus justifying the employment of the limited number of these costly weapons.

It is necessary to discover these concentrations when they are still being effected and within a time preceding their completion equal to that necessary for bringing the action of the weapon to bear on them. It will devolve on air observation to follow these evolutions as no other means of investigation is capable of doing.

However, one will not content himself with waiting passively for these concentrations; one will attempt to bring them about by stopping the enemy with a continuous system of defense. This, however, is not the only way in which this can be accomplished. Maneuvers which will lead the enemy to group his forces can be imagined. Threats of envelopment and the blocking of a communications network carried out with conventional means may produce results that can be exploited. It devolves on the intelligence officer to use his knowledge of the enemy for orienting such actions.

One will be careful not to stop at the

technical point of view only. The capability of obtaining a decisive tactical or strategic success must always be exploited although it is at the cost of the utilization of the atom bomb. The intelligence officer will, therefore, endeavor to be permanently posted in regard to the tactical, strategic, and logistic weaknesses of the enemy and will not hesitate to advise the employment of the weapon although the technical conditions may not be perfect.

It will also be necessary to study what capabilities an enemy, dispersed because of his vulnerability to the bomb, will retain in the strategic and tactical fields. The needs from the point of view of intelligence would then be: Exposed to the atomic threat and dispersed in order to avoid it, what results could the enemy still obtain? Would he be able, for instance, to defend a certain zone or destroy a certain friendly defensive disposition?

If his dispersion did not permit him to attain this result, what degree of concentration should he permit and what would be his resultant vulnerability?

Schematically represented, the problem that is posed by the advent of atomic and thermonuclear weapons is as follows:

Remain fairly dispersed in order to minimize the effects of atomic action.

Be capable of carrying out a tactical action against an enemy who could change his forces over rapidly to conventional density and thus leave his adversary helpless.

Influence this dispersed enemy to concentrate his forces sufficiently to make them vulnerable to the atom bomb.

Do not give him sufficient time to make use of his concentrations against a dispersed disposition.

These various aspects of the problem lead one to make decisions concerning rapid changes of disposition. These decisions cannot be made without a minimum knowledge concerning the enemy.

The problem of intelligence in atomic warfare, therefore, is not different in principle from that presented in so-called conventional warfare.

It is, however, strongly influenced by the rapidity of the enemy actions and of the possible changes from one type to the other—from atomic to conventional warfare. Allocation of means, limited by atomic vulnerability on one hand and by vulnerability to conventional means on the other, imparts a fairly new aspect to the study of the enemy.

Our own security will increase as our allies gain information concerning the use of and the defense against atomic weapons. Some of our allies, in fact, are now producing fissionable materials or weapons, supporting effective atomic energy research, and developing peacetime uses for atomic power. But all of them should become better informed in the problems of atomic warfare and, therefore, better prepared to meet the contingency of such warfare. In order for the free world to be an effective defense unit, it must be geared to the atomic facts of this era. . . .

President Dwight D. Eisenhower

BOOKS OF INTEREST TO THE MILITARY READER

CIVILIZATION AND FOREIGN POLICY. By Louis J. Halle. 277 Pages. Harper & Brothers, New York. $3.75.

LT COL W. C. MAGATHAN, JR., *Arty*

It is not an understatement to say that Mr. Halle's inquiry into the "inner workings" of international affairs rivals the work of Clausewitz in the military sphere. Mr. Dean Acheson in the introduction wrote: "To write or speak on our foreign relations in a way which informs, enlightens, and persuades is an achievement. In reading this book there is only one way to exorcise envy, that one had not the capacity to write it. This is through gratification that someone else had." The concepts and principles Mr. Halle propounds were "smelted" while he was a student at the National War College, "tempered" while a member of the State Department Policy Planning Staff, and hammered into shape in his spare time.

He points out that "the men who made the effective peace of 1815 were able to do so because they regarded Napoleon rather than France as the enemy whom they had overcome; while the men who failed to make an effective peace in 1919, as in 1945, failed because their concepts of the enemy embraced whole peoples."

Mr. Halle's discussion of the role of "force," "concent," and "legitimacy" in international politics together with their application to the problems of the times is valuable to the officer in clarifying the function of the military.

LAWRENCE OF ARABIA. A Biographical Enquiry. By Richard Aldington. 448 Pages. Henry Regnery, Co., Chicago, Ill. $5.00.

BY MAJ HORST K. JOOST, *Inf*

This book is not recommended for those who admire T. E. Lawrence.

The author, a British poet and novelist, classifies the book as a "biographical enquiry." A more apt title would be, "A Study in Defamation." An inquiry should search for the truth in an objective manner. This has not been the case. The author has been highly selective in his research in attempting to negate Lawrence's accomplishments, and makes hasty and, at times, unfounded conclusions based on sketchy evidence. The entire book reads like a case for the prosecution.

He begins by picking the bones of the family skeleton and questioning the ancestry of Lawrence and ends the book with Lawrence's death, which he implies was due to his being a poor motorcyclist. Between the beginning and the end is what, at times, would make good material for a Sunday supplement or the *Police Gazette*. Frequently the author attempts to substantiate some obscure point to assist his argument that Lawrence was only great because the "Lawrence Bureau" make him great. The "Lawrence Bureau" and Lawrence's "hagiographers" are Lowell Thomas, Liddell Hart, and others who have written of Lawrence's deeds. It is felt that this book serves more to confuse than to clarify Lawrence.

POLISH POSTWAR ECONOMY. By Thad Paul Alton. 330 Pages. Columbia University Press, New York. $5.75.

BY LT COL MITCHEL GOLDENTHAL, *CE*

This scholarly treatise examines and appraises in detail Polish economic planning and development. Major portions deal with the role of the postwar government in determining economic policy; effect of state control over production and consumers; the administration of the planned economy; and planning and performance in the economy as a whole. All portions of the book are well documented and illustrated by statistical information.

Mr. Alton's absorbing book, one of the studies of the Russian Institute of Columbia University, advances the difficult task of promoting systematic research on the "Iron Curtain" countries and public understanding of the problems involved.

AIR POWER. By Asher Lee. 200 Pages. Frederick A. Praeger, Inc., New York. $3.75.

BY MAJ JOHN N. HIGHLEY, *USAF*

The author has proved himself to be an expert in the field of air forces and airpower. His previous books, *The German Air Force*, and *The Soviet Air Force*, have shown his ability to discuss the capabilities, limitations, and structures of national air forces. He has a background in the air intelligence staff of the Royal Air Force and is considered one of the world's foremost specialists in the field of military aviation.

In this book Mr. Lee looks more closely into the role of air strategy and the position of airpower in our world of today. It cannot be considered a propaganda means for advancing the role of the air weapon but an honest study into what airpower has done, has not done, and should be doing in our present age. It is a factful study that those interested in current and future air development will find both informative and useful.

GUIDED MISSILES IN WAR AND PEACE. By Nels A. Parsen, Jr. 151 Pages. Harvard University Press, Cambridge, Mass. $3.50.

BY COL CHARLES B. SCHWEIZER, *CE*

This book is an easily read explanation of guided missiles, their means of propulsion, and their uses. The author traces their history from their earliest known existence to the present date. A brief description of the atmosphere in which missiles travel is covered, and the external surface of a missile as well as their guidance is explained.

The various type jet engines and solid and liquid propellent means of propulsion are covered. The author discusses guided missile warfare in the air, the use of guided missiles on ships, submarines, in land warfare, their use for peace, and the problem of space travel.

This book is extremely interesting and should be read by all Army officers to provide them with a basic understanding of guided missiles and free rockets. Parents will find it invaluable when answering their children's questions on missiles and jet propulsion.

GENERAL LEEMY'S CIRCUS. By Earl Snyder. 175 Pages. Exposition Press, New York. $3.00.

BY MAJ JACK D. STEVENS, *USAF*

This is a story about the airmen who flew the *B-29s* in the air offensive against Japan. It is not a biography of General LeMay—or General "Leemy," as the Japanese called him.

The author, a navigator, was on the first *B-29* raid against Tokyo. Before the war's end he was back over Tokyo and other Japanese cities many times.

It is an interesting book for casual reading, but not of professional value to the Army officer.

THE STATESMAN'S YEAR-BOOK 1955. Edited by S. H. Steinberg. 1,620 Pages. St. Martin's Press, New York. $8.50.

THE FIFTEEN WEEKS. (February 21-June 5, 1947.) By Joseph M. Jones. 296 Pages. The Viking Press, New York. $3.75.

BY COL HAROLD F. HARDING, *USAR*

Officers who have been on duty with Military Assistance Groups since 1947 and have ever pondered how our "help get strong" program began will want to read this book. Its author was a State Department staff member during the critical weeks that President Truman announced his Truman Doctrine (12 March) and Secretary Marshall launched at the Harvard Commencement Exercises (5 June) what came to be the Marshall Plan. Historians now regard the spring of 1947 as a major turning point in our struggle against Communist aggression. This book is an important study of that crucial period.

How was this bold new strategy conceived? Who were its chief architects? What reactions did it meet with in the Congress, the press, and the ordinary citizen? Mr. Jones provides the answers to these and similar questions in a well-documented work.

Most significant to Army staff officers is the detailed account of the research that committee members like Brigadier General George A. Lincoln and others initiated or conducted on the assistance needed by a dozen or more European countries. A special *ad hoc* committee was asked to determine in 3 weeks (11 March-2 April) not only the countries that might need assistance, "but in the case of each country to supply the answers to a number of questions: To what extent was the country threatened by internal or external pressures? Would it be possible, given the resources of the United States, to give assistance that could be effective? What consideration of national security and interest should govern the decision of the United States to grant or withhold assistance? What kinds of assistance would be needed? What demands would the granting of assistance make upon the resources of the United States? What arrangements should be made with foreign governments to assure the effective use of our aid in accomplishing our objectives? What would be the consequence of failure to aid each country concerned?"

These are the kinds of problems that have become the consuming tasks of hundreds of our best staff officers and commanders to master since World War II. Mr. Jones is to be commended for portraying for us to intricacies and subtleties of planning at the global level. Again we see the priceless value of well-trained staff officers in times of great peril.

THE DIRECTION OF WAR. By Air Vice Marshal E. J. Kingston-McCloughry. 261 Pages. Frederick A. Praeger, Inc., New York. $4.00.

BY MAJ FREDERICK A. SMITH, JR., *Inf*

The Direction of War is a short study of the British High Command from the viewpoints of interservice and interallied harmony and efficiency. The author, a recognized British airman and writer, describes and analyzes fundamental problems of political direction and high command. He provides a well-documented background for his criticisms by discussing former concepts of high command, tracing them from the time of Marlborough through World War II. Of particular interest are the author's comments on leading personalities of World War II with whom he was closely associated, and his "behind-the-scenes" reporting of staff conferences of the Allied High Command prior to the D-day landings in Normandy.

This book is not recommended reading in its entirety for the average United States officer as it delves primarily into the organizational problems of the British High Command. However, certain chapters, particularly those on "Personalities in High Command" and "Conduct of Modern War," are recommended and can be read in an evening.

ENOCH H. CROWDER. By David A. Lockmiller. 286 Pages. The University of Missouri Studies, Columbia, Mo. $5.00.

BY LT DAVID B. DOWNING, *JAGC*

Merely to enumerate some of General Crowder's achievements is to put one on notice that he was a man of many and varied talents. He was responsible in large measure for development of the basic principles of the Selective Service System, initiated major revisions of the military penal system and the Articles of War, and upon his retirement from 46 years of military service served as first United States Ambassador to Cuba.

This "swivel chair general" fought many battles—some he won, some he lost. He clashed with General Hugh L. Scott, then Chief of Staff, over the limits of the latter's authority. General Crowder was overruled by the Secretary of War and the office of Chief of Staff became supreme. The discriminating reader will find this book enjoyable and informative.

A HISTORY OF THE CROATIAN PEOPLE. By Francis R. Preveden. 134 Pages. The Philosophical Library, Inc., New York. $7.50.

BY LT COL IRVING HEYMONT, *Inf*

Professor Preveden has written a scholarly and interesting account of the prehistoric and early period of the Croatian people up to 1397 A. D.

The Croats, a Slavic tribe, migrated over 1,200 years ago to the area that is now the part of Yugoslavia bordering the Adriatic Sea. This book spells out in detail how the Croats absorbed the native Roman and Greek cultures and created a nation that reached its zenith of power in the early middle ages.

The illustrations are excellent but unfortunately the accompanying map is almost illegible. This book will be of great interest and value to the specialist in that area. For the average military reader it is too detailed a study.

NIGHT RAIDER OF THE ATLANTIC. By Terence Robertson. 256 Pages. E. P. Dutton & Co., Inc., New York. $4.00.

BY CAPT WILLIAM P. WOODS, *USN*

This is the story of Germany's top submarine ace of World War II and his ship the *U-99*.

While submarine tactics were set forth by the High Command, individual commanding officers were allowed to experiment with new tactics, even under battle conditions. In this way Kapitänleutnant Kretchmer discovered weaknesses in the British detection equipment which permitted him to penetrate escort screens for attacks on merchant ships. Instead of firing fans of torpedoes from a relatively safe position outside the screen, the *U-99* made night attacks on the surface, sometimes cruising between columns of merchant ship. The *U-99's* history came to an end in March 1941 with its destruction and capture of all but three members of the ship's complement by the British.

Night Raider of the Atlantic is well written and interesting but should have ended on page 185. Nothing after this contributes materially to the story.

SOVIET ATTITUDES TOWARD AUTHORITY. By Margaret Mead. 142 Pages. William Marrow & Co., Inc., New York. $5.00.

BY LT COL K. C. EMERSON, *Inf*

One of the great problems facing the "Western World" is that concerning the attitudes of the Russian people toward the "West" and their own government.

As the title indicates this work is an attempt to answer some of the questions regarding attitudes of the Russian people toward governmental authority, and is based on periodicals, journals, movies, records, and interviews available to the group which prepared the study.

It should be of particular interest to military personnel involved in a study of the Soviet system, or those who would know more about the Soviets.

THE ROCKET PIONEERS. By Beryl Williams and Samuel Epstein. 241 Pages. Julian Messner, Inc., New York. $3.75.

BY COL DANIEL C. POLLOCK, *USMC*

In about 2 hours over 200 rockets had been launched by the fleet. Not a shot was returned as the enemy had been completely stunned. Less than 10 minutes after the first launching the great enemy-held seaport had been a fiery furnace. Later on a blow was struck against a partner of the enemy. This time about 25,000 rockets were launched from ships against another major seaport with such success that a great victory was won and one of the allies of the enemy was knocked completely out of the war. The time, 1805, during the Napoleonic wars.

The Rocket Pioneers—on the road to space—is a history of rocketry and the story of the men who have planned and built them within the last 150 years.

The book is timely and interesting. The military reader will gain a factual background on the men and their projects that make possible the rockets that are today's news.

CONGRESSIONAL POLITICS IN THE SECOND WORLD WAR. By Roland Young. 236 Pages. Columbia University Press, New York. $4.50.

BY LT COL WILLIS B. SCUDDER, *Arty*

While World War II was in progress most Americans were far more concerned with the military aspects of the conflict, with the result that in most instances the best we could spare for congressional activities was an over-the-shoulder glance. In this short volume Mr. Young has attempted to portray some of the more interesting congressional events during the period 1941-45.

Although interesting and readable, it will have no special interest for the strictly military reader, except to fill him in on the "congressional story" of World War II.

HOW COMMUNISTS NEGOTIATE. By Admiral C. Turner Joy, United States Navy, Retired. 178 Pages. The Macmillan Co., New York. $3.50.

BY COL JAMES E. MRAZEK, *Inf*

For more than 10 months Admiral C. Turner Joy served as Senior United Nations Delegate in Korea charged with negotiating an armistice with the Chinese and North Korean representatives.

Here he draws into one small readable volume many cold war techniques and the new ones the Communists pulled out of the hat for the occasion. He gives a treasure house of experience and knowledge absorbed the hard way as a guide to the West, and more particularly to those of us who may have to undertake similar negotiations in the future.

MEMOIRS BY HARRY S. TRUMAN. Volume I: Year of Decisions. 561 Pages. Doubleday & Co., Inc., New York. $5.00.

BY LT COL CHARLES E. LAMONT, *Inf*

Here is a revealing look back at the momentous events of the year following the death of Franklin D. Roosevelt. Ex-President Truman provides a clear picture of national and international events, and shows how certain actions by the Soviet Union foreshadowed incidents of the future.

The book not only gives a viewpoint on the events of world importance of that year, but also gives the reactions of other world leaders as expressed to Mr. Truman. He reveals his human and humane characteristics as mirrored in letters to his family and in his reactions to certain events. This book brings out the awesome responsibilities of the Office of the President in a way which strikes home. It points up some of the little publicized but very time-consuming tasks of being President with sidelights from Mr. Truman's personal experience.

All in all this is an excellent as well as entertaining account. Any student of current history will find this a "must."

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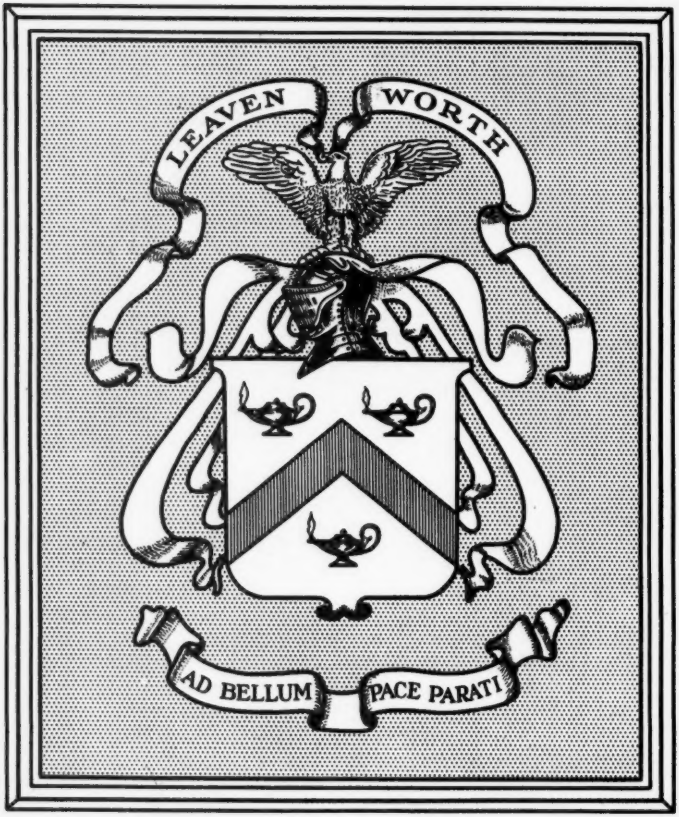

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